



## TABLE of CONTENTS

### MODULE I - STANDARD CONDITIONS

A.	EFFECT OF PERMIT .....	I - 1
B.	PERMIT ACTIONS .....	I - 1
C.	PERMIT CONDITIONS .....	I - 1
D.	PERMIT SUBMITTALS .....	I - 1
	Effect of Submittals .....	I - 1
	Submittal Modification .....	I - 2
E.	SEVERABILITY .....	I - 2
F.	DUTIES AND REQUIREMENTS .....	I - 2
	Duty to Comply .....	I - 2
	Duty to Reapply .....	I - 2
	Permit Expiration and Continuation .....	I - 3
	Need to Halt or Reduce Activity Not a Defense .....	I - 3
	Duty to Mitigate .....	I - 3
	Proper Operation and Maintenance .....	I - 3
	Duty to Provide Information .....	I - 3
	Inspection and Entry .....	I - 4
	Monitoring and Records .....	I - 4
	Reporting Planned Changes .....	I - 5
	Anticipated Noncompliance .....	I - 6
	Transfer of Permit .....	I - 6
	Compliance Schedules .....	I - 6
	Immediate Reporting of Releases .....	I - 6
	Twenty-four Hour Reporting .....	I - 7
	Unmanifested Waste Report .....	I - 8
	Manifest Discrepancy Report .....	I - 8
	Biennial Report .....	I - 8
	Additional Noncompliance Reporting .....	I - 8
	Other Information .....	I - 9
G.	SIGNATORY REQUIREMENT .....	I - 9
H.	CONFIDENTIAL INFORMATION .....	I - 9
I.	DOCUMENTS TO BE MAINTAINED AT THE FACILITY .....	I - 9
J.	PERMIT MODIFICATIONS .....	I - 10

9/30/2005

K.	REPORTS, NOTIFICATIONS AND SUBMITTALS TO THE REGIONAL ADMINISTRATOR .....	I - 10
L.	DEFINITIONS .....	I - 11
M.	DISPUTE RESOLUTION .....	I - 12

## MODULE II - GENERAL FACILITY CONDITIONS

A.	DESIGN AND OPERATION OF FACILITY .....	II - 1
B.	PROHIBITION ON RECEIPT OF-SITE WASTES .....	II - 1
C.	GENERAL WASTE ANALYSIS .....	II - 1
D.	SECURITY .....	II - 3
E.	GENERAL INSPECTION REQUIREMENTS .....	II - 3
F.	PERSONNEL TRAINING .....	II - 4
G.	GENERAL REQUIREMENTS FOR IGNITABLE, REACTIVE, OR INCOMPATIBLE WASTE .....	II - 5
H.	LOCATION STANDARDS .....	II - 5
I.	PREPAREDNESS AND PREVENTION .....	II - 5
	Required Equipment .....	II - 5
	Testing and Maintenance of Equipment .....	II - 5
	Access to Communications or Alarm System .....	II - 6
	Required Aisle Space .....	II - 5
	Arrangements with Local Authorities .....	II - 5
J.	CONTINGENCY PLAN .....	II - 6
	Implementation of Plan .....	II - 6
	Resumption of Hazardous Waste Activity .....	II - 6
	Copies of Plan .....	II - 6
	Amendments to Plan .....	II - 7
	Contents of Contingency Plan .....	II - 7
	Emergency Coordinator .....	II - 7
	Emergency Procedures .....	II - 7
k.	RECORDKEEPING AND REPORTING .....	II - 7
	Operating Record .....	II - 7
	Availability, Retention, and Disposition of Records .....	II - 7
	Biennial Report .....	II - 8
	Unmanifested Waste Report .....	II - 8



Additional Reports .....	II - 8
--------------------------	--------

## **MODULE III - CORRECTIVE ACTION REQUIREMENTS FOR SOLID WASTE MANAGEMENT UNITS and AREAS OF CONCERN**

<b>A.</b>	<b>BACKGROUND ON CORRECTIVE ACTION INFORMATION ON SWMUs AND AOCS AT THE FACILITY .....</b>	<b>III - 1</b>
	Statue and Regulations .....	III - 1
	Summary of Corrective Action Process .....	III - 1
	RCRA § 3008 (h) Corrective Action Order .....	III - 6
	Solid Waste Management Units Subject to Conditions of this Module .....	III - 6
	Recently Identified SWMU: SWMU 52-Crude Tank 002 .....	III - 20
	Area of Concern .....	III - 20
<b>B.</b>	<b>STANDARD CONDITIONS FOR CORRECTIVE ACTIONS .....</b>	<b>III - 21</b>
	Work Plans .....	III - 21
	Monitoring and Records .....	III - 21
	Health / Safety Plans .....	III - 21
	Guidance Documents .....	III - 21
	Prior Submittals .....	III - 21
	Interim Corrective Measures .....	III - 21
	Expedite Removal of Waste, Contaminated Material, and Contaminated Soils and Sediments (RCRA Stabilization Measures) .....	III - 24
	Future Determination of No Further Action (NFA) .....	III - 25
	Reporting .....	III - 26
	Compliance with Governmental Requirements .....	III - 29
	Notifications .....	III - 29
	Corrective Action Beyond the Facility Boundary .....	III - 31
<b>C.</b>	<b>FUTURE ASSESSMENT OF ANY NEWLY IDENTIFIED SWMUs AND/OR AOCS .....</b>	<b>III - 31</b>
	Notification .....	III - 31
	SWMU Assessment Report .....	III - 31
	SWMU Sampling and Analysis Plan .....	III - 32
	Review and Revision of Sampling and Analysis Plan .....	III - 32
	SWMU Sampling and Analysis Report .....	III - 33
	RFI Work Plan .....	III - 33
	Additional RCRA Facility Investigation (RFI) Work Plan If Required by EPA .....	III - 33
	RCRA Facility Investigation (RFI) Work plan Implementation .....	III - 35
	RCRA Facility Investigation (RFI) Final Report .....	III - 35
<b>D.</b>	<b>NOTIFICATION REQUIREMENTS FOR NEWLY-DISCOVERED RELEASES AT EXISTING SWMUs AND AOCS .....</b>	<b>III - 37</b>
	Corrective Measures Study (CMS) Work Plan .....	III - 37
	Corrective Measures Study (CMS) Implementation .....	III - 39
	Corrective Measures Study (CMS) Final Report .....	III - 39
	Corrective Measures Selection .....	III - 40

Permit Modification for Future Corrective Measure(s) Implementation .....	III - 43
Modification of the Compliance Schedule .....	III - 44

#### **MODULE IV - CONTAINER STORAGE**

A.	HAZARDOUS WASTE STORAGE AREA .....	IV - 1
B.	PERMITTED AND PROHIBITED WASTE IDENTIFICATION .....	IV - 2
	Permitted Waste .....	IV - 2
	Prohibited Waste .....	IV - 2
C.	CONDITION OF CONTAINERS .....	IV - 3
D.	COMPATIBILITY OF WASTE WITH CONTAINERS .....	IV - 3
E.	MANAGEMENT OF CONTAINERS .....	IV - 3
F.	CONTAINMENT SYSTEM .....	IV - 4
G.	INSPECTION SCHEDULES AND PROCEDURES .....	IV - 4
H.	RECORD KEEPING .....	IV - 5
I.	CLOSURE .....	IV - 5
J.	SPECIAL CONTAINER PROVISIONS FOR IGNITABLE OR REACTIVE WASTE .....	IV - 5
K.	SPECIAL CONTAINER PROVISIONS FOR INCOMPATIBLE WASTE .....	IV - 5
L.	LAND DISPOSAL RESTRICTION .....	IV - 5
	Waste Analysis .....	IV - 5
	Storage of LDR Wastes .....	IV - 6
	Disposal and Transport of Restricted Waste .....	IV - 6

#### **MODULE V - ORGANIC AIR EMISSION STANDARDS**

A.	APPLICABILITY .....	V - 1
	Units .....	V - 1
B.	STANDARDS FOR CONTAINERS .....	V - 1
C.	INSPECTIONS, MONITORING AND REPAIR .....	V - 1
D.	RECORDKEEPING REQUIRMENTS .....	V - 1
E.	REPORTING REQUIREMENTS .....	V - 2

F.	NOTIFICATION OF REGULATED ACTIVITY .....	V- 2
G.	DUTY TO COMPLY WITH FUTURE REQUIREMENTS .....	V- 2
H.	EXEMPT UNITS .....	V- 2

#### **MODULE VI - WASTE MINIMIZATION**

A.	WASTE MINIMIZATION .....	VI- 1
C.	HAZARDOUS WASTE REDUCTION PLAN (HWRP) .....	VI-1
D.	IMPLEMENTATION OF WASTE REDUCTION PLAN TECHNIQUES .....	VI- 2
E.	ENVIRONMENTAL MANAGEMENT SYSTEM (EMS) .....	VI- 2

#### **MODULE VII - CLOSURE**

A.	CLOSURE .....	VII - 1
	Performance Standard .....	VII - 1
	Requirement for Written Plan .....	VII - 1
	Content of Closure Plan .....	VII - 1
	Amendment to Closure Plan .....	VII - 2
	Notification of Partial Closure and Final Closure .....	VII - 3
	Removal of Wastes and Decontamination or Dismantling of Equipment .....	VII - 4
	Time Allowed for Closure .....	VII - 4
	Disposal or Decontamination of Equipment .....	VII - 4
	Certification of Closure .....	VII - 4
B.	COST ESTIMATE FOR FACILITY CLOSURE .....	VII - 5
C.	FINANCIAL ASSURANCE FOR FACILITY CLOSURE .....	VII - 5
D.	LIABILITY REQUIREMENTS .....	VII - 5
E.	INCAPACITY OF OWNERS OR OPERATORS, GUARANTORS, OR FINANCIAL INSTITUTIONS .....	VII - 5

## **ATTACHMENTS**

### **Module II Attachments**

- II-1 Waste Analysis Plan (May 2002).
- II-2 Security & Procedures to Prevent Hazards.
- II-3 Inspection Schedule and Frequency & Summary Table.
- II-4 Example Inspection Log Forms.
- II-5 Emergency Spill Equipment list & Spill Containment Equipment list (July 1995).
- II-6 Training Outline.
- II-7 Contingency Plan and Associated Attachments (May 2002).

### **Module III Attachments**

- III-1 The June 1997 RFI Report and Subsequent Revisions in Response to EPA's Comments.
- III-2 The June 30, 2003 Supplemental RFI Report and Subsequent Revisions in Response to EPA's Comments
- III-3 The March 2005 RFI Final Report and Associated EPA Comments
- III-4 Scope of Work for a RCRA Facility Investigation.
- III-5 Scope of Work for a Corrective Measure Study.

### **Module IV Attachments**

- IV-1 Process Description.
- IV-2 Hazardous Waste Storage Area Containment Calculations.
- IV-3 Engineering Design Drawing for the Concrete Slab (April 2002).

### **Module VI Attachments**

- VI-1 EPA Waste Minimization Opportunity Assessment Manual (June 1988).

### **Module VII Attachments**

- VII-1 Closure Plan

**ADMINISTRATIVE RECORD****SHELL CHEMICAL YABUCOA INC. (SCYI) - RCRA PERMIT**

<u>Date of Document</u>	<u>Document (includes associated transmittal letter, if any)</u>
1. July 26, 1995	PRSOC submitted a Revised RCRA Part B Permit Application (Volumes 1, 2, and 3).
2. November 14, 1997	EPA issued a Notice of Deficiency ("NOD") to PRSOC's July 26, 1995, Part B Permit Application.
3. April 20, 1998	Revised Part B Permit Application (Volumes 1, 2, 3 and 4) submitted by PRSOC to address EPA's NOD of November 14, 1997.
4. February 18, 1999	EPA issued a NOD to PRSOC's April 20, 1998 revised Part B Permit Application.
5. April 21, 1999	PRSOC's submitted modified sections of the April's 20, 1998, Part B Permit Application in response to EPA's NOD of February 18, 1999.
6. January 6, 2000	Letter to Mr. Carlos Martinez, Senior Environmental Engineer of PRSOC, from Ms. Nicoletta DiForte of EPA Region 2, regarding the April 21, 1999 submittal.
7. March 10, 2000	PRSOC submitted modified sections of the Part B Permit Application as a result of EPA's comments.
8. June 20, 2000	Letter to Mr. Carlos Martinez, Senior Environmental Engineer of PRSOC, from Ms. Nicoletta DiForte of EPA Region 2, regarding deficiencies in PRSOC's March 10, 2000 submittal.
9. July 15, 2001	PRSOC's submitted a complete Revised Part B Permit Application (Volumes 1, 2 and 3).
10. November 30, 2001	PRSOC's submittal of 30 days notification of changing of ownership of the facility transmitted with Mr. Jose Morales's (Refinery Manager of PRSOC) letter of November 30.

11. December 20, 2001 Shell Chemical Yabucoa, Inc. (SCYI)'s submittal of a Part A Application as the new owner of PRSOC, and requesting a transfer of the EPA identification number.
12. February 1, 2002 SCYI's submittal of a Revised RCRA Part A Permit Application.
13. May 8, 2002 SYCI's Final RCRA Part B permit Application (Volumes 1, 2 and 3).
14. May 11, 2002 SCYI submitted a revisions to the Final RCRA Part B Permit Application, along with an electronic copy of the application package.
15. June 8, 1994 Corrective Action Consent Order RCRA - 94 - 3008 (h) - 0301
16. September 6, 2002 A table summarizing hazardous waste management units at SYCI which are subject to Subpart CC.
17. August 1994 RCRA Facility Investigation (RFI) Description of Current Conditions (Volumes 1 and 2)
18. June 1994 RCRA §3008 (h) Administrative Order on Consent.
19. February 1996 RFI Work Plan (Revision 1)
20. June 1997 Draft RFI Report.
21. October 21, 1997 PRSOC's Process Sewer Assessment Report (SWMU 32)
22. September 1, 1998 Letter to Mr. Carlos Martinez, Senior Environmental Engineer of PRSOC, from Ms. Nicoletta DiForte of EPA Region 2, commenting on the October 21, 1997, Process Sewer Assessment Report.
23. November 6, 1998 Letter to Mr. Carlos Martinez, Senior Environmental Engineer of PRSOC, from Ms. Nicoletta DiForte of EPA Region 2, commenting on the June 1997, Draft RFI Report.
24. November 25, 1998 PRSOC's submittal [in response to EPA's letter of September 1, 1998] transmitted with Mr. Carlos Martinez ( Corrective Action Project Coordinator of PRSOC) letter of November 25, 1998, containing a Work Plan for Soil Investigation and Removal in the Crude Naphtha Debutanizer Area (CNDA), prepared by Anderson

Mulholland & Associates, Inc. (AMAI)

25. March 8, 1999 PRSOC's submittal [in response to EPA's letter of November 6, 1998] transmitted with Mr. Charles D. Barksdale's (Manager, Environmental Projects of SUNOCO) letter of March 8, 1999, containing a Supplemental RFI Work Plan to address data gaps identified by EPA in the June 1997 Draft RFI Report.
26. April 2, 1999 Letter to Mr. Carlos Martinez, Senior Environmental Engineer of PRSOC, from Ms. Nicoletta DiForte of EPA Region 2, commenting on the November 25, 1998 Work Plan for Soil Investigation and Removal in the CNDA.
27. June 2, 1999 PRSOC's submittal [in response to EPA's letter of April 2, 1999] transmitted with Mr. Charles D. Barksdale's (Manager, Environmental Projects of SUNOCO) letter of June 2, 1999, containing a revised Work Plan (Revision 1) for Soil Investigation and Removal in the CNDA.
28. January 26, 2000 Letter to Mr. Carlos Martinez, Senior Environmental Engineer of PRSOC, from Ms. Nicoletta DiForte of EPA Region 2, commenting on the June 1999 Work Plan for Soil Investigation and Removal in the CNDA (revision 1).
29. March 17, 2000 PRSOC's submittal [in response to EPA's letter of January 26, 2000] transmitted with Mr. Carlos Martinez's (Corrective Action Coordinator of PRSOC) letter of March 17, 2000, containing a Revision 2.0 of the Work Plan for Soil Investigation and Removal in the CNDA.
30. May 18, 2000 AMAI's submittal (on behalf of PRSOC) of the Quality Assurance Plans for Accutest Laboratories of Dayton, New Jersey and TEG-Puerto Rico of Caguas, Puerto Rico as the selective laboratories for the support of the Soil Investigation at CNDA.
31. June 1, 2000 Letter to Mr. Carlos Martinez, Senior Environmental Engineer of PRSOC, from Ms. Nicoletta DiForte of EPA Region 2, approving the Work Plan (Revision 2.0) and the implementation of the field effort for the Soil Investigation and Removal at the CNDA, pending the review of the laboratories Quality Assurance Projects Plans (QAPPs)

32. September 8, 2000 Letter to Mr. Carlos Martinez, Senior Environmental Engineer of PRSOC, from Ms. Nicoletta DiForte of EPA Region 2, commenting on the QAPPs for the laboratories associated with the Soil Investigation and Removal at the CNDA.
33. October 11, 2000 PRSOC's submittal [in response to EPA's letter of September 8, 2000] transmitted with Mr. Carlos Martinez's (Corrective Action Coordinator of PRSOC) letter of October 11, 2000, containing a revised OAPPs for the two laboratories.
34. October 26, 2000 Letter to Mr. Carlos Martinez, Senior Environmental Engineer of PRSOC, from Ms. Nicoletta DiForte of EPA Region 2, commenting on the March 8, 1999 submittal.
35. December 29, 2000 PRSOC's submittal [in response to EPA's letter of October 26, 2000] transmitted with Mr. Carlos Martinez's (Senior Environmental Engineer of PRSOC) letter of December 29, 2000, containing a revision to the march 8, 1999 Supplemental RFI Work Plan.
36. February 12, 2001 Letter to Mr. Carlos Martinez, Senior Environmental Engineer of PRSOC, from Mr. Timothy Gordon of EPA Region 2, commenting on the October 26, 2000, revised QAPPs for the laboratories.
37. March 23, 2001 PRSOC's submittal [in response to EPA's letter of February 12, 2001] transmitted with Mr. Carlos Martinez's (Corrective Action Coordinator of PRSOC) letter of March 23, 2001 containing an Addendum to QAPPs for the two laboratories.
38. May 11, 2001 Letter to Mr. Carlos Martinez, Senior Environmental Engineer of PRSOC, from Mr. Samuel Ezekwo of EPA Region 2, approving the Work Plan (Revision 2.0) for the Soil Investigation and removal in the CNDA.
39. August 16, 2001 Letter to Mr. Carlos Martinez, Senior Environmental Engineer of PRSOC, from Mr. Raymond Basso of EPA Region 2, commenting on the December 29, 2000, revised Supplemental RFI Work Plan.
40. October 4, 2001 PRSOC's submittal [in response to EPA's letter of August 16, 2001] transmitted with Mr. Carlos Martinez's (Senior Environmental Engineer of PRSOC) letter of October 4, 2001.



41. December 12, 2001 PRSOC's submittal [Soil Investigation and Removal Report for the CNDA] transmitted with Mr. Carlos Martinez's (Senior Environmental Engineer of PRSOC) letter of December 12, 2001.
42. March 21, 2002 Letter to Mr. Carlos Martinez, Senior Environmental Engineer of PRSOC, from Ms. Nicoletta DiForte of EPA Region 2, commenting on the December 12, 2001, Report of CNDA Soil Investigation.
43. May 10, 2002 PRSOC's submittal [in response to EPA's letter of March 21, 2002] transmitted with Mr. Charles Barksdale (Corrective Action Project Coordinator of SUNOCO) letter of May 10, 2002.
44. August 29, 2002 Letter to Mr. Carles Barksdale, Corrective Action Project Coordinator of SUNOCO, from Mr. Timothy Gordon of EPA Region 2, approving the December 2001 Soil Investigation Report for the CNDA and NFA for SWMU 32.
45. November 1, 2002 Letter to Mr. Carles Barksdale, Corrective Action Project Coordinator of SUNOCO, from Mr. Sam Ezekwo of EPA Region 2, approving the December 2000 Supplemental RFI Work
46. September 22, 2003 EPA public noticed tothe Draft permit in El Nuevo Dia and San Juan Star newspapers.
47. October 21, 2003 Minutes of EPA's Public Hearing at the Reynaldo Alvarez Costa Public Library in Yabucoa (Public Hearing Transcript).
48. October 26, 2003 Letter from the Komite Yabucoeno Pro Calidad de Vida, Inc., signed by 200 community representatives concerning the hearing.
49. October 31, 2003 EPA's letter to theYabucoa Library with the Draft Permit, the Public Notice and the Radio Announcement as attachments.
50. October 31, 2003 EPA's letter to the Yabucoa community announcing the Draft Permit is available at the Yabucoa Library for public review.
51. October 31, 2003 EPA's letter to Jose Anibal Roman with a copy of the Draft Permit, the Public Notice and the Radio Announcement as attachments.
52. November 3, 2003 Letter from Shell's lawyer, Jerry Lucas, requesting requesting an extension of the public comment period.

53. November 6, 2003 Letter from the Honorable Angel S. Garcia de Jesus supporting the community's concerns.
54. November 26, 2003 Shell comments on the Draft Permit
55. December 10, 2003 Letter from Jose Anibal Roman requesting an extension of the Public Comment Period.
56. March 11, 2004 Letter from Carl Soderberg responding to Mayor's letter
57. April 12, 2004 Letter/email from Jose Anibal Roman stating that the community favors a public meeting.
58. May 10, 2004 Letter from Senator Serrano to Carl Soderberg of CEPD requesting another hearing be held for the community.
59. May 12, 2004 Letter from Jose Anibal Roman responding to email and at the same time reporting a fire near the Shell facility.
60. July 2, 2004 EPA letter to Senator Serrano announcing a Public Session to be held on August 17, 2004.
61. July 2, 2004 EPA invitation letter to the Yabucoa Community requesting their presence at the Public Session to be held on August 17, 2004
62. August 17, 2004 Documents from EPA's Public Availability Session on Draft Permit in response to community concerns.
63. August 17, 2004 Letter from Jose Anibal Roman providing translation to SCYI press release.
64. October 14, 2004 Letter from Shell's lawyer, Jerry Lucas, requesting all documents submitted to EPA during the Public Availability Session.
65. October 29, 2004 FOIA request from Shell's lawyer, Jerry Lucas, seeking all documents submitted to EPA during the Public Availability Session.
66. September 13, 2004 EQB translation of Minutes taken by Manuel Vargas during the Public Availability Session held by EPA on August 17, 2004.
67. December 3, 2004 Letter from Shell providing certified translation to its press release.

68. January 19, 2005

Letter from Shell responding to Public Availability Session  
comments submitted to EPA.

## **MODULE I - STANDARD CONDITIONS**

### **SHELL CHEMICAL YABUCOA INC. (SCYI) , PUERTO RICO**

- A. **EFFECT OF PERMIT.** This Permit authorizes only the management of hazardous wastes expressly described in this Permit and does not authorize any other hazardous waste management activities. Compliance with the terms of this Permit constitutes compliance, for purposes of enforcement, with the requirements of Subtitle C ("Hazardous Waste Management") of RCRA, as amended by HSWA, 40 CFR §270.4(a). Issuance of this Permit does not convey any property rights of any sort, or any exclusive privilege; nor does it authorize any injury to persons or property, or invasion of other private rights, or any infringement of the laws of Commonwealth of Puerto Rico (hereafter referred to as the "Commonwealth") or local laws or regulations. Compliance with the terms of this Permit does not constitute a defense to any action brought under Sections 3013, 3008(h) and/or Section 7003 of RCRA, 42 U.S.C. §6934, §6928(h) and/or §6973; Sections 104, 106(a), 107 and/or 122 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended ("CERCLA"), 42 U.S.C. §9604, §9606(a), §9607 and/or §9622, or any other law, and applicable regulations, other than those excepted by 40 CFR §270.4, governing protection of public health or the environment.
- B. **PERMIT ACTIONS.** This Permit may be modified, revoked and reissued, or terminated for cause as specified in 40 CFR §270.41, §270.42 and §270.43. The filing of a request for a Permit modification, revocation and reissuance, or termination, or the notification of planned changes or anticipated noncompliance on the part of SCYI (the "Permittee") does not stay the applicability or enforceability of any condition of this Permit (40 CFR §270.30(f)). Review of any application for a Permit renewal shall involve consideration of improvements in the state of control and measurement technology, as well as changes in applicable regulations. [Section 3005(c)(3) of RCRA, 42 U.S.C. §6925(c)(3)]
- C. **PERMIT CONDITIONS.** Pursuant to Section 3005(c)(3) of RCRA, 42 U.S.C. §6925(c)(3) , promulgated as regulation at 40 CFR §270.32(b), this Permit contains those terms and conditions the Administrator determines necessary to protect human health and the environment. If not otherwise specified in this Permit, all the requirements of 40 CFR §270.30, §270.31, §270.32 and §270.33 are hereby incorporated into this Permit by reference.
- D. **PERMIT SUBMITTALS.**
1. **Effect of Submittals.** All plans, reports and schedules required by the terms of this Permit are, unless otherwise specified, upon approval by EPA, incorporated by reference into this Permit. Upon incorporation, the provisions of each such document shall be binding upon the Permittee and have the same legal force and

effect as the requirements of this Permit.

2. Submittal Modification. The Permittee shall submit plans and reports required by this Permit to EPA for review and comment. Unless otherwise specified, EPA shall review any plan, report, specification, or schedule submitted pursuant to, or required by this Permit, and provide its written approval/disapproval, comments and/or modifications to the Permittee. Unless otherwise specified by EPA, the Permittee shall submit a revised proposal within thirty (30) days of its receipt of EPA's written comments and/or modifications. The Permittee may request an extension of this thirty (30) day period by delivering such a request to EPA in writing no later than fifteen (15) days after its receipt of EPA's written comments and/or modifications. EPA shall grant or deny any such request for an extension. Any revised proposal submitted by the Permittee shall incorporate EPA's comments and/or modifications unless the Permittee and EPA agree otherwise. (Alternatively, EPA may request the Permittee to modify the submittal and resubmit it.) EPA will then approve the revised proposal or modify the proposal and approve it with any such modifications. The revised proposal, as approved by EPA, shall become final. All final approvals shall be given to the Permittee in writing.

- E. SEVERABILITY. The provisions of this Permit are severable, and if any provision of this Permit, or the application of any provision of this Permit to any circumstance is stayed or held invalid, the application of such provision to other circumstances and the remainder of this Permit shall not be affected thereby.

F. DUTIES AND REQUIREMENTS.

1. Duty to Comply. The Permittee shall comply with all conditions of this Permit, except that the Permittee need not comply with the conditions of this Permit to the extent and for the duration such noncompliance is authorized by an emergency Permit (see 40 CFR §270.61). Any noncompliance with this Permit, except under the terms of an emergency Permit, constitutes a violation and is grounds for: 1) enforcement action; 2) Permit termination, revocation and reissuance, or modification; and/or 3) denial of a Permit renewal application. [40 CFR §270.30(a)]
2. Duty to Reapply. If the Permittee wishes to continue an activity regulated by this Permit after the expiration date of this Permit, the Permittee shall submit a new permit application at least 180 days before this Permit expires, unless the Director grants permission for a later date, which date shall not be later than the expiration date of the existing Permit. [40 CFR §270.10(h) and §270.30(b)]

3. Permit Expiration and Continuation. Unless modified pursuant to Condition J this module, this Permit will be in effect for the time period, which must not exceed ten (10) years. As set forth in 40 CFR §270.51, as long as EPA is the Permit-issuing authority, this Permit and all conditions herein will remain in effect beyond the Permit's expiration date if the Permittee has submitted a timely, complete application pursuant to 40 C.F.R. Part 270, and through no fault of the Permittee, the Director (as defined in Paragraph L.2 below) has not issued a new Permit pursuant to 40 CFR §124.15.

If the Commonwealth, at the time of Permit renewal, has permitting authority under 40 CFR Part 271 and if the Permittee has submitted a timely and complete application under Commonwealth law and regulations, the terms and conditions of this Permit shall continue in force beyond the expiration date of this Permit, but only until the effective date of the Commonwealth's issuance or denial of a Commonwealth Permit.

4. Need to Halt or Reduce Activity Not a Defense. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Permit. [40 CFR §270.30(c)]
5. Duty to Mitigate. In the event of noncompliance with this Permit, the Permittee shall take all reasonable steps to minimize releases to the environment, and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health or the environment. [40 CFR §270.30(d)]
6. Proper Operation and Maintenance. The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this Permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate sampling, laboratory and process controls, including appropriate quality assurance/quality control ("QA/QC") procedures. This provision requires the operation of backup or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the Permit. [40 CFR §270.30(e)]
7. Duty to Provide Information. The Permittee shall furnish to the Director, within a reasonable time, any relevant information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Permit, or to determine compliance with this Permit. The Permittee shall also furnish to the Director, upon request, copies of records required to be kept by this Permit. [40 CFR §270.30(h) and §264.74(a)]

8. Inspection and Entry. The Permittee shall allow the Director, or an authorized representative of EPA, upon the presentation of credentials and other documents as may be required by law, to:
- a. Enter at reasonable times upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Permit;
  - b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Permit;
  - c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Permit; and
  - d. Sample or monitor, at reasonable times, for the purposes of assuring Permit compliance or as otherwise authorized by RCRA as amended, any substances or parameters at any location. [40 CFR §270.30(i)(4)]

9. Monitoring and Records.

- a. Representativeness of Samples and Measurements. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. [40 CFR §270.30(j)]. The method used to obtain a representative sample of the waste to be analyzed must be the appropriate method from Appendix I of 40 CFR Part 261 or an equivalent sampling method approved by the Director. 40 CFR §261.20(c). Laboratory methods must be those specified in Test Methods for Evaluating Solid Waste: Physical/ Chemical Methods (EPA Publication SW-846, Third Edition, 1987, as currently amended), and Standard Methods for the Examination of Water and Waste Water (16th Edition, 1985, as currently amended), or an equivalent method approved by the Director, as specified in the waste analysis plan in Attachment II-1 to this Permit. [40 CFR §270.6]
- b. Retention of Records. The Permittee shall retain records of all monitoring information, including all calibration and maintenance records; copies of all reports and records required by this Permit; the certification required by 40 CFR §264.73(b)(9); and records of all data used to complete the application for this Permit for a period of at least 3 years from the date of the sample, measurement, report, certification, or application. This period may be extended by written request of the Director at any time. The Permittee shall maintain records from all groundwater monitoring wells



and associated groundwater surface elevation, for the active life of the Facility. [40 CFR §270.30(j)(2)].

c. Content of Monitoring Records. Records of monitoring information shall include:

- (1) The date(s), exact place, and time of sampling or measurements;
- (2) The individual(s) who performed the sampling or measurements;
- (3) The date(s) analyses were performed;
- (4) The individual(s) who performed the analyses;
- (5) The analytical techniques or methods used; and
- (6) The results of such analyses. [40 CFR §270.30(j)]

d. Quality Assurance Program. The Permittee shall conduct a quality assurance program to ensure that the monitoring data are technically accurate and statistically valid. The quality assurance program shall be in accordance with Chapter One of Test Methods for Evaluating Solid Waste: Physical/Chemical Methods (EPA Publication SW-846, Third Edition, 1987, as currently amended), or with the requirements of EPA's most current statement of work for the National Contract Laboratory Program, and EPA Region 2's CERCLA Quality Assurance Manual (Revision 1, October 1989, as currently amended), and the most current Standard Operating Procedure, Functional Guidelines for Evaluating Organics Analyses, and the most current Standard Operating Procedure, Evaluation of Metals Data for the Contract Laboratory Program, or an EPA approved quality assurance program as specified in the waste analysis plan in Attachment II-1 to this Permit.

e. Monitoring Reports. Monitoring results must be reported at the intervals specified elsewhere in this Permit. [40 CFR §270.30 (l)(4)]

10. Reporting Planned Changes. The Permittee shall give notice to the Director, as soon as possible, of any planned physical alterations or additions to the permitted facility, which would affect the Permittee's operation or activities under this Permit. [40 CFR §270.30(l)(1)]



11. Anticipated Noncompliance. The Permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with this Permit's requirements. This notice must include a description of all incidents of noncompliance reasonably expected to result from the proposed changes. [40 CFR §270.30(l)(1) and (2)]
12. Transfer of Permit. This Permit is not transferable to any person or corporation unless notice has been given to the Director and the Permit has been modified, or revoked and reissued, or a minor modification made to identify the new Permittee and to incorporate such other requirements as may be necessary. [40 CFR §270.30(l)(3) and §270.40]
13. Compliance Schedules. See specific Permit conditions.
14. Immediate Reporting of Releases.
  - a. Whenever there is an imminent or actual emergency situation, the emergency coordinator, as designated in the contingency plan required in Module II, or his designee when the emergency coordinator is on call, must immediately:
    - (1) Activate internal Facility alarms or communication systems, where applicable, to notify all Facility personnel; and
    - (2) Notify appropriate Commonwealth or local agencies with designated response roles if their help is needed. [40 CFR §264.56(a)(1) and (2)]
  - b. If the emergency coordinator determines that the Facility has had a release, fire, or explosion which could threaten human health, or the environment, outside the Facility, he must report his findings as follows:
    - (1) If his assessment indicates that evacuation of local areas may be advisable, he must immediately notify appropriate local authorities. He must be available to help appropriate officials decide whether local areas should be evacuated; and
    - (2) He must immediately notify either the government official designated as the on-scene coordinator for that geographical area, or the National Response Center (using their 24-hour toll free number 800/424-8802). The report must include:

- (a) Name and telephone number of reporter;
- (b) Name and address of Facility;
- (c) Time and type of incident (e.g., release, fire);
- (d) Name and quantity of material(s) involved, to the extent known;
- (e) The extent of injuries, if any; and
- (f) The possible hazards to human health, or the environment, outside the Facility. [40 CFR §264.56]

15. Twenty-four Hour Reporting.

- a. The Permittee shall report to the Director any noncompliance with this Permit which may endanger human health or the environment. Any such information shall be reported orally within 24 hours from the time the Permittee becomes aware of the circumstances. This report shall include the following:
  - (1) Information concerning the release of any hazardous waste which may cause an endangerment to public drinking water supply sources;
  - (2) Any information of a release or discharge of hazardous waste, or of a fire or explosion from the Facility, which could threaten the environment or human health outside the Facility;
- b. The description of the occurrence and its cause, as reported pursuant to subparagraph 15.a immediately above shall include:
  - (1) Name, address and telephone number of the owner or operator of the Facility;
  - (2) Name, address, and telephone number of the Facility;
  - (3) Date, time, and type of incident;
  - (4) Name and quantity of material(s) involved;

- (5) The extent of injuries, if any;
  - (6) An assessment of actual or potential hazards to the environment and human health outside the Facility, where this is applicable; and
  - (7) Estimated quantity and disposition of recovered material that resulted from the incident. [40 CFR §270.30(l)(6)]
- c. A written submission shall also be provided to the Director within five (5) calender days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance (including exact dates and times); whether the noncompliance has been corrected, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. The Permittee need not comply with the five day written notice requirement if the Director waives that requirement and the Permittee submits a written report within fifteen (15) calendar days of the time the Permittee becomes aware of the circumstances. [40 CFR §270.30(l)(6)(iii)]

The oral reports required above may be made by contacting the EPA Region 2, 24-hour Emergency Response Center, at (732) 548-8730, or any designated telephone number which may subsequently replace it.

- 16. Unmanifested Waste Report. [Not Applicable]
- 17. Manifest Discrepancy Report. [Not Applicable]
- 18. Biennial Report. The Permittee shall prepare and submit a biennial report covering Facility activities. This report shall be submitted by March 1 of each even numbered calendar year and shall contain all of the information required by 40 CFR §264.75, and 40 CFR §270.30(l)(9).
- 19. Additional Noncompliance Reporting. The Permittee shall report all instances of noncompliance (including release of hazardous waste, fire, or explosion) not required to be reported under Permit Conditions I.F.9, I.F.14 or I.F.15. Such noncompliance shall be reported for each calendar quarter (i.e., January through March, and each subsequent quarter) by no later than 45 days after the end of the quarter. The reports shall contain the information listed in Permit Condition I.F.15.b. [40 CFR §270.30(l)(10)]

20. Other Information. Whenever the Permittee becomes aware that it failed to submit any relevant facts in the Permit application, or submitted incorrect information in a Permit application, or in any report to the Regional Administrator or the Director, the Permittee shall promptly submit such facts or information to the Director. [40 CFR §270.30(l)(11)]
- G. SIGNATORY REQUIREMENT. All applications, reports or other information submitted to the Regional Administrator or the Director shall be signed and certified as required by 40 CFR §§ 270.11 and 270.30(k). The certification must read as follows:
- “I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”
- H. CONFIDENTIAL INFORMATION. The Permittee may claim confidential any information required to be submitted by this Permit in accordance with 40 CFR §270.12 and 40 CFR Part 2, Subpart B.
- I. DOCUMENTS TO BE MAINTAINED AT THE FACILITY. In addition to a copy of this Permit and any amendments, revisions, or modifications to the Permit and its attachments, the following information must be recorded, as it becomes available, and maintained in the operating record until closure of the Facility.

A copy of the written operating record that was prepared in accordance with 40 CFR §264.73 shall be maintained until closure of the Facility. This operating record shall include, at a minimum, the following information:

1. The location of each hazardous waste within the Facility and the quantity at each location.
2. A copy of the waste analysis plan that was prepared in accordance with 40 CFR §264.13(b).
3. Records and results of waste analyses performed as specified in 40 CFR §264.13, §264.17, and §268.7.
4. Summary reports and details of all incidents that require implementation of the contingency plan as specified in 40 CFR §264.56(j).

5. A copy of the written inspection plan and schedule prepared in accordance with 40 CFR §264.15(b) must be kept for the duration of the Permit.
  6. Records and results of inspections as required by 40 CFR §264.15(d) and §264.174; these data must be kept for three years.
  7. Personnel training documents and records that demonstrate continuous compliance with the requirements of 40 CFR §264.16(d). However, training records for former employees must be maintained at the facility for at least three years from the date the employee last worked at the facility, unless EPA requests in writing that SCYI keep the records for a longer period of time.
  8. A current copy of the contingency plan and all revisions to the plan, as required by 40 CFR §264.53(a).
  9. A written closure plan, as required by 40 CFR §264.112(a).
  10. A copy of the latest closure cost estimate prepared in accordance with 40 CFR §264.142(a) and (c), an indication of when this estimate was adjusted in accordance with 40 CFR §264.142(b), and the latest adjusted closure cost estimate, as required by 40 CFR §264.142(d).
  11. Monitoring, testing, or analytical data where required by 40 CFR Part 264, Subparts F, I, and CC.
  12. Records and results of waste analyses required by other parts of this Permit (40 CFR 264.73(b)(3)) to demonstrate compliance with the requirements of 40 CFR Part 268 (Land Disposal Restrictions).
- J. PERMIT MODIFICATIONS. The Permit may be modified as allowed under 40 CFR §270.41 and §270.42. Modifications to this Permit may be made by the Director for cause in accordance with 40 CFR §270.41. Modifications to the Permit may also be requested by the Permittee as is provided for in 40 CFR §270.42.
- K. REPORTS, NOTIFICATIONS AND SUBMITTALS TO THE REGIONAL ADMINISTRATOR. All reports, notifications or other submittals required by this Permit are to be submitted to the Director and sent by certified mail or hand delivered to:

U.S. Environmental Protection Agency, Region 2  
Director  
Division of Environmental Planning and Protection  
290 Broadway, 25th Floor  
New York, New York 10007-1866

U.S. Environmental Protection Agency, Region 2  
Adolph S. Everett, P.E.  
Chief, RCRA Programs Branch  
290 Broadway, 22nd Floor  
New York, New York 10007-1866

U.S. Environmental Protection Agency, Region 2  
RCRA Record Center, Room 1538  
290 Broadway, 15th Floor  
New York, New York 10007-1866

Commonwealth of Puerto Rico  
Environmental Quality Board  
P.O. Box 1148  
Santurce, PR 00910-1488  
Attention: Land Pollution Control Area

L. DEFINITIONS. For the purpose of this Permit, terms used herein shall have the same meaning as those set forth in 40 CFR Parts 260 through 270, unless this Permit specifically states otherwise. Where terms are not otherwise defined, the meaning associated with such terms shall be defined by a standard dictionary reference or the generally accepted scientific or industrial meaning of the term.

1. Area of Concern (AOC). Pursuant to the authority granted by Section 3005(c)(3) of RCRA and 40 CFR §270.32(b)(2), an area of concern is hereby defined for purposes of this Permit to mean an area at the Facility (other than a waste management unit), or an off-site area impacted by migration of contamination from the Facility, where hazardous waste and/or hazardous constituents are present or are suspected to be present as a result of a release from the Facility. The term shall include area(s) of potential or suspected contamination, as well as actual contamination. Such area(s) may require investigation and a determination of what, if any, corrective action may be necessary based on investigation results that show a potential or actual threat to human health and the environment.

2. Director. The Director or Deputy Director of the Division of Environmental Planning and Protection, United States Environmental Protection Agency, Region 2, or the designee, authorized representative, or successor to such Director.

3. EPA. The United States Environmental Protection Agency, Region 2.

4. Facility (upper case) or facility (lower case): This term means generally all contiguous land and structures, other appurtenances, and improvements on the land, used for treating, storing, or disposing of hazardous waste. The term "Facility" includes the crude oil

(petroleum) refinery owned and operated by the Permittee, SCYI, at Road 901, Kilometer 2.7, Camino Nuevo Ward, Yabucoa, Puerto Rico, at the intersection of Route 3 and Route 901. The Facility occupies an area of approximately two hundred and fifty two (252) acres which have been subdivided into three working areas: i) the refinery area, which includes the hazardous waste management unit (ie., the Container Storage Area (also known as the "Hazardous Waste Storage Area")); ii) the tank farm area; and iii) the dock area.

5. Hazardous Constituents. Those constituents listed in Appendix VIII to 40 CFR Part 261 and Appendix IX of 40 CFR Part 264.

6. Hazardous waste. For purposes of this Permit, a hazardous waste shall be defined as set forth in 40 CFR §261.3.

7. Permittee. The Permittee is Shell Chemical Yabucoa, Inc. (SCYI), an owner and operator of the Facility.

8. Regional Administrator. The Regional Administrator of the United States Environmental Protection Agency for Region 2, his or her designee, or authorized representative.

9. Release. For purposes of this Permit, a release includes, but is not limited to, any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment of any hazardous waste or hazardous constituent, unless expressly authorized under the terms of this Permit.

10. Solid Waste Management Unit ("SWMU"). A SWMU includes any waste management unit from which hazardous constituents have migrated or may migrate, irrespective of whether the unit was intended for the management of hazardous or solid wastes (as those terms are defined in §1004(5) and (27) of RCRA, 42 U.S.C. §6903(5) and (27), and the regulations promulgated pursuant to RCRA, 40 C.F.R. §261.2 and §261.3). These units include, but are not limited to: landfills, surface impoundments, waste piles, land treatment units, tanks, elementary neutralization units, transfer stations, container storage areas, incinerators, injection wells, recycling units, and closed and abandoned units. Any area which has become contaminated as a result of routine and systematic releases of hazardous or nonhazardous waste, or hazardous constituents may also be considered a SWMU.

M. DISPUTE RESOLUTION.

1. The Permittee shall use its best efforts in good faith to resolve informally all disputes or differences of opinion, which may arise in connection with this Permit. Such informal dispute resolution may include meeting with EPA staff, written



submissions of information or relevant arguments and other oral or written exchange of views between the Permittee and EPA staff.

2. If disputes arise which cannot be resolved informally as described in paragraph 1, immediately above, the procedures set forth in this subparagraph shall be followed by the Permittee in formally obtaining resolution. The Permittee shall notify the Director in writing of any such dispute(s). Within thirty (30) calendar days of such notification, the Permittee shall have the right to submit a written statement to the Director, which shall set forth the Permittee's specific points of contention, the Permittee's argument and evidence, and any additional material that the Permittee considers necessary or relevant for a proper determination of the matter. Effort to resolve the dispute(s) informally may continue between the Permittee and EPA staff subsequent to the Permittee's written submission to the Director. If the dispute(s) cannot be resolved informally within sixty (60) calendar days of the receipt of Permittee's written submission to the Director, the Director will provide Permittee a final decision in writing on the dispute(s), which decision shall set forth the Director's reasons for the decision. The Director's decision shall be the resolution of the dispute(s), shall be incorporated into the Permit, and shall be implemented by the Permittee.
3. For purposes of this paragraph (Module I.M), the term "Director" shall mean only the Director or anyone formally acting on behalf of the Director.
4. EPA will extend the schedule for performing any elements of work materially affected by the good faith invocation of the dispute resolution process pursuant to this paragraph.



## **MODULE II - GENERAL FACILITY CONDITIONS**

### **SHELL CHEMICAL YABUCOA INC. (SCYI), PUERTO RICO**

- A. **DESIGN AND OPERATION OF FACILITY.** The Permittee shall maintain and operate the facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.

The Permittee is authorized to store, for greater than ninety (90) days, only the hazardous wastes identified in Permit Condition IV.B.1.

- B. **PROHIBITION ON RECEIPT OF OFF-SITE WASTES.** The Permittee is not allowed to receive hazardous waste from an off-site source.

- C. **GENERAL WASTE ANALYSIS.**

1. The Permittee shall follow the procedures described in the Waste Analysis Plan, included as Permit Attachment II-1 to this Permit, and conduct a quality assurance program as specified in Permit Condition I.F.9.d.
2. The Permittee shall verify its waste analysis as part of the quality assurance program. The quality assurance program will be in accordance with current EPA practices (Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, SW-846, Third Edition, 1987, as currently amended, and the data validation procedures as established by the Director) or equivalent methods approved by the Director, and at a minimum, ensure that the Permittee maintains properly functioning instruments, uses approved sampling and analytical methods, as specified in 40 CFR Part 261, Appendices I, II and III, assures the validity of sampling and analytical procedures, and performs correct calculations.
3. At a minimum, the waste analysis plan must include the following:
  - a. The parameters for which each hazardous waste will be analyzed, and the rationale for the selection of these parameters, as required by 40 CFR §264.13(b)(1);
  - b. The test methods which will be used to test for these parameters, as required by 40 CFR §264.13(b)(2);
  - c. The sampling method(s) which will be used to obtain a representative sample of the waste to be analyzed, as required by 40 CFR §264.13(b)(3); and

- d. The frequency with which the initial analysis of the waste will be reviewed or repeated to ensure that the analysis is accurate and up to date, as required by 40 CFR §264.13(b)(4).
  - e. The analysis may include data developed under 40 CFR Part 261, and existing published or documented data on the hazardous waste or on hazardous waste generated from similar processes.
4. The Permittee shall comply with the land disposal restriction provisions of 40 CFR Part 268 by testing its waste or an extract developed using the test method described in Appendix I of 40 CFR Part 268, or by using knowledge, based on documentation in the Permittee's records, of the waste to determine if the waste is restricted from land disposal. See Module IV, Section L for further details.
5. The Permittee shall comply fully with the Waste Analysis Plan (Attachment II-1), including the provisions listed below:
- a. Whenever changes in plant processes alter the wastes generated, or affect the manner in which a specific waste is managed, the Permittee shall review and, if necessary, amend the Waste Analysis Plan and obtain a Permit modification pursuant to 40 CFR §270.42.
  - b. The Permittee shall maintain records that provide a detailed chemical and physical analysis of a representative sample of each waste. However, when a specific process generates a waste stream instead of an individual waste, a detailed chemical and physical analysis of a representative sample of such waste stream will be sufficient to comply with this requirement. At a minimum, the analysis shall contain all the information which must be known to treat, store, or dispose of the waste pursuant to 40 CFR Parts 124, 261, 262, 264, 268, and 270.
  - c. The Permittee shall repeat any waste analysis as necessary to ensure that it is accurate and up to date. At a minimum, an analysis shall be repeated when the Permittee is notified, or has reason to believe, that a process or operation generating a hazardous waste has changed, unless the change will not result in a change in the chemical or physical makeup of the relevant waste material.
  - d. The Permittee shall keep a copy of the Waste Analysis Plan at the facility in accordance with the requirements of Permit Condition I.I.2 of this Permit.

D. SECURITY. The Permittee shall comply with the security provisions of 40 CFR §264.14. Security procedures currently being implemented at the Facility are described in Permit Attachment II-2. Security procedures described in Attachment II-2 may be modified (subject to the provisions of 40 CFR §270.42, if applicable) by SCYI as long as the modified procedures comply with the provisions of 40 CFR §264.14. At a minimum, the Permittee shall:

1. Provide a 24-hour surveillance system which continuously monitors and controls entry onto the active portions of the facility; or
2. Provide the following controls:
  - a. An artificial or natural barrier which completely surrounds the active portions of the hazardous waste management unit (ie., the Container Storage Area, also known as the Hazardous Waste Storage Area "HWSA")); and
  - b. A means to control entry, at all times, through the gates or other entrances to the Facility. [40 CFR §264.14(b)]
3. The Permittee shall post and maintain a warning sign with the legend, "DANGER--Unauthorized Personnel Keep Out," at each entrance to the active portion of the hazardous waste management unit, and at other locations, in sufficient numbers to be seen from any approach to the active portion. The legend must be legible from a distance of at least 25 feet. Existing signs, at the time of Permit issuance, with a different legend may be used only if the legend on the sign indicates that only authorized personnel are allowed to enter the active portion, and that entry onto the active portion can be dangerous. [40 CFR §264.14(c)]

E. GENERAL INSPECTION REQUIREMENTS The Permittee shall follow the inspection plan and schedule included as Permit Attachment II-3 and demonstrate continuous compliance with 40 CFR §264.15. The Permittee shall remedy any deterioration or malfunction discovered by an inspection as required by 40 CFR §264.15(c). The Permittee shall use inspection log forms that include, at a minimum, the information in the example log forms provided in Permit Attachment II-4. All inspection logs shall be signed and dated by the individual performing the inspection, and placed into the operating log. Records of inspections shall be kept as required by 40 CFR §264.15(d), ie., for at least three (3) years from the date of inspection, unless EPA requests in writing that SCYI keep the records for a longer period of time. At a minimum, this inspection schedule must include the following:

1. A list of items to be inspected -- Monitoring equipment, safety and emergency equipment, security devices, loading and unloading areas, and operating and

structural equipment that are important for preventing, detecting, or responding to environmental or human health hazards, as required by 40 CFR §264.15(b)(1);

2. The schedule must identify the types of problems which are to be looked for during the inspection, as required by 40 CFR §264.15(b)(3);
3. The frequency of inspection which should be based on the rate of possible equipment deterioration and the probability of an environmental or human health incident, if equipment deterioration or malfunction or any operator error goes undetected between inspections. The frequency for inspecting the monitoring, safety, emergency, operating and structural equipment, and security devices listed in Permit Attachment II-3 is specified in Table 1 of that Attachment. The spill control and response equipment listed in Permit Attachment II-5, shall be inspected daily when in use and monthly on a routine basis. The Permittee shall inspect all equipment daily when in use, but detailed inspection records will be required only for routine inspections (i.e., weekly, monthly, or yearly routine inspections) as shown in Table 1 of Attachment II-3. Areas subject to spills, such as loading and unloading areas, must be inspected daily when in use as required by 40 CFR §264.15(b)(4); and

F. PERSONNEL TRAINING. The Permittee shall conduct personnel training as required by 40 CFR §264.16(a), (b) and (c). The training program currently being implemented at the Facility is described in Permit Attachment II-6. The training program described in Permit Attachment II-6 may be modified (subject to the provisions of 40 CFR §270.42, if applicable) by the Facility as long as procedures comply with the provisions of 40 CFR §§264.16(a), (b), and (c). The Permittee shall maintain training documents and records as required by 40 CFR §264.16(d) and (e). Pursuant to 40 C.F.R. Section 264.16(e), training records for current employees must be kept until hazardous waste management unit closure. Training records for former employees must be maintained at the facility for at least three (3) years from the date the employee last worked at the facility, unless EPA requests in writing that SCYI keep the records for a longer period of time. At a minimum, the training program must include the following:

1. The program must be directed by individuals who are trained in hazardous waste management procedures, and emergency response procedures. The program must include instructions that teach Facility personnel hazardous waste management procedures relevant to the positions in which they are employed, as required by 40 CFR §264.16(a)(2);
2. As required by 40 CFR §264.16(a)(3), the training program must be designed to ensure that Facility personnel are able to respond effectively to emergencies by familiarizing them with emergency procedures, emergency equipment, and

emergency systems, including, where applicable:

- a. Procedures for using, inspecting, repairing, and replacing Facility emergency and monitoring equipment;
  - b. Communications or alarm systems;
  - c. Response to fires or explosions;
  - d. Response to groundwater contamination incidents; and
  - e. Shut-down of operations.
3. In accordance with 40 CFR §264.16(b) and (c), provisions to ensure that:
- a. Facility personnel must successfully complete the program required by 40 CFR §264.16(a) within six (6) months after the date of their employment or assignment to the Facility, or to a new position at the Facility, whichever is later;
  - b. Employees do not work in unsupervised positions until they have completed the training requirements of 40 CFR §264.16(a); and
  - c. Facility personnel take part in an annual review of the initial training, as required by 40 CFR §264.16(c).

G. GENERAL REQUIREMENTS FOR IGNITABLE, REACTIVE, OR INCOMPATIBLE WASTE. The Permittee shall take precautions to prevent accidental ignition or reaction of ignitable or reactive waste as required by 40 CFR §264.17 and as described in Permit Attachment II-2. The Permittee shall also document this compliance, as required by 40 CFR §264.17(c).

H. LOCATION STANDARDS. Not Applicable.

I. PREPAREDNESS AND PREVENTION.

1. Required Equipment. At a minimum, the Permittee shall equip the Facility with the equipment set forth in the Contingency Plan presented as Permit Attachment II-7 and as required by 40 CFR §264.32, unless the Permittee can demonstrate to the Director that none of the hazardous waste handled at the Facility or conditions that might arise at the Facility would require the specified equipment.
2. Testing and Maintenance of Equipment. The Permittee shall test and maintain the

equipment specified in the previous Permit condition as necessary to assure its proper operation in time of emergency, as set forth in the inspection schedule in Attachment II-3 to this Permit, Permit Condition II.E.3, and 40 CFR §264.33.

3. Access to Communications or Alarm System. The Permittee shall maintain immediate access to the communications or alarm system as required by 40 CFR §264.34, in accordance with Attachment II-2 to this Permit.
4. Required Aisle Space. At a minimum, the Permittee shall maintain a minimum aisle space of 2 feet between containers, or rows of containers, to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of the hazardous waste management unit in an emergency as required by 40 CFR §264.35, and to provide access for daily and weekly inspections required by 40 CFR §264.174, and this Permit.
5. Arrangements with Local Authorities. The Permittee shall make every reasonable attempt to maintain arrangements with Commonwealth and local authorities as required by 40 CFR §264.37 and §264.52(c), as appropriate, for the types of waste handled and the potential need for their services. If Commonwealth or local officials refuse to enter into preparedness and prevention arrangements with the Permittee, the Permittee must document this refusal in the operating record.

J. CONTINGENCY PLAN.

1. Implementation of Plan. The Permittee shall immediately carry out the provisions of the Contingency Plan (Permit Attachment II-7) and follow the emergency procedures described by 40 CFR §264.56 whenever there is a fire, explosion, or any release of hazardous waste or hazardous waste constituents which threatens or could threaten human health or the environment.
2. Resumption of Hazardous Waste Activity. After any event requiring implementation of the contingency plan and associated attachments, the Permittee shall not resume hazardous waste management in the affected area until all equipment used during the emergency has been cleaned, recharged, or replaced, as appropriate.
3. Copies of Plan. The Permittee shall comply with the requirements of 40 CFR §264.53 which require that a copy of the Contingency Plan and all revisions to the plan must be:
  - a. Maintained at the Facility; and



- b. Submitted to all local police departments, fire departments, hospitals, and Commonwealth and local emergency response teams that may be called upon to provide emergency services.
- 4. Amendments to Plan. The Permittee shall review the contingency plan and immediately amend it, if necessary, as required by 40 CFR §264.54, whenever:
  - a. The Facility Permit is revised;
  - b. The plan fails in an emergency;
  - c. The Facility changes in its design, construction, operation, maintenance, or other circumstances in a way that materially increases the potential for fires, explosions, or releases of hazardous waste or hazardous waste constituents, or changes the response necessary in an emergency;
  - d. The list of emergency coordinators changes; or
  - e. The list of emergency equipment changes.
- 5. Contents of Contingency Plan. The Permittee must ensure that the Contingency Plan contains the information required by 40 CFR §264.52.
- 6. Emergency Coordinator. The Permittee shall comply with 40 CFR §264.55 at all times. Only qualified individuals specified in the Contingency Plan may act as the Emergency Coordinator or Alternate Emergency Coordinator. The emergency coordinator or the alternate emergency coordinator shall be available at all times (i.e., at the Facility or on call) to respond to an emergency, and must have the authority to commit the resources needed to carry out the Contingency Plan.
- 7. Emergency Procedures. The Permittee's emergency coordinator or its designee (i.e., the alternate emergency coordinator) shall immediately implement the emergency procedures required by 40 CFR §264.56 whenever there is an imminent or actual emergency situation.

K. RECORDKEEPING AND REPORTING.

- 1. Operating Record. The Permittee shall maintain a written operating record at the Facility in accordance with the applicable portions of 40 CFR §264.73.
- 2. Availability, Retention, and Disposition of Records. All records, including plans, must be made available at reasonable times for inspection by any officer, employee, or representative of EPA duly designated by the Administrator or his

designee, in accordance with 40 CFR §264.74(a). The retention period for all records is extended automatically during any unresolved enforcement action regarding the Facility or as requested by the Director, as required by 40 CFR §264.74(b). A copy of records of waste disposal locations and quantities under 40 CFR §264.73(b)(2) must be submitted to the Director and local land authority upon closure of the Facility as required by 40 CFR §264.74(c).

3. Biennial Report. The Permittee shall comply with the biennial report requirements of 40 CFR §264.75, by March 1 of each even numbered year.
4. Unmanifested Waste Report. [NOT APPLICABLE]
5. Additional Reports. The Permittee shall comply with the additional reporting requirements set forth in 40 CFR §264.77. At a minimum, the Permittee shall report to the Director:
  - a. Releases, fires, and explosions as specified in 40 CFR §264.56(j);
  - b. Facility closures as specified in 40 CFR §264.115; and
  - c. As otherwise required by 40 CFR Part 264, Subparts F and CC, as applicable.



**MODULE III - CORRECTIVE ACTION REQUIREMENTS**  
**FOR SOLID WASTE MANAGEMENT UNITS AND AREAS OF CONCERN**

**SHELL CHEMICAL YABUCOA INC. (SCYI), PUERTO RICO**

A. **BACKGROUND ON CORRECTIVE ACTION AND INFORMATION ON SWMUs AND AOCs AT THE FACILITY**

1. **Statute and Regulations.** Section 3004(u) of RCRA, 42 U.S.C. §6924(u) and its corresponding regulations published in 40 CFR §264.101, require corrective action for all releases of hazardous wastes or constituents from any solid waste management unit ("SWMU") at a storage, treatment or disposal facility seeking a Permit, regardless of the time at which waste was placed in such a unit. Section 3004(v) of RCRA, 42 U.S.C. §6924(v), requires that corrective action be taken beyond the facility boundary, where necessary, to protect human health and the environment. Pursuant to 40 CFR §270.32 (b)(2), the Director may impose terms and conditions as the Director determines necessary to protect human health and the environment.
2. **Summary of Corrective Action Process.** Corrective action implementation authorized by Section 3004(u) of RCRA, 42 U.S.C. §6924(u), includes: (a) the RCRA Facility Assessment ("RFA"); (b) the RCRA Facility Investigation ("RFI"); and (c) Corrective Measures ("CM"). It can also include Interim Measures and a Release Assessment.

**Initial Site Assessment.** In the corrective action program, the first element is referred to as a RCRA Facility Assessment ("RFA"). During an RFA, an overseeing agency (or facility) compiles existing information on environmental conditions at a given facility and gathers additional facility-specific information on SWMUs, Areas of Concerns (AOCs), releases, potential releases, release pathways, and receptors.

The RFA is a three-phase process that includes: (a) the Preliminary Review ("PR"); (b) the Visual Site Inspection ("VSI"); and (c) the Sampling Visit ("SV"). The PR, which must be conducted at all treatment, storage and disposal facilities seeking a RCRA Permit, is a review of all available information on the individual SWMU(s) and AOCs. During the PR, and in subsequent phases of the RFA, all of the media (i.e., soil, groundwater, surface water, air and subsurface gas) that could potentially be impacted by the release(s) of hazardous constituents are evaluated. Based on this review, the SWMUs and any Areas of Concern ("AOCs") identified during the course of the investigation are characterized as to their release potentials.

Following the PR, a VSI is conducted during which all of the SWMUs and AOCs, either previously or newly discovered, are observed. While performing this inspection, any signs of spills or leakage, stained soil, stressed vegetation, unit deterioration, or any other conditions that may be indicative of a release are assessed. Following these observations and the findings of the PR, EPA may require the Permittee to conduct an SV at the areas where releases are suspected.

The SV can involve any or all of the previously described media at any given SWMU or AOC. For those units where releases are clearly demonstrated in the PR and/or VSI, the SV can be skipped, leaving the unit(s) to be addressed subsequently in the RFI.

The last stage of the RFA involves preparing the RFA report. This report includes the findings of the various RFA activities and recommendations for further action at those units with demonstrated releases of hazardous wastes or hazardous constituents. If the RFA concludes that there is a need for further investigative work, the Permittee shall be required to pursue phase two of corrective action, an RFI. In some cases, where an immediate threat to human health or the environment exists, interim corrective measures may be required.

Interim Corrective Measures: One of the objectives of the corrective action program is to expedite risk reduction by emphasizing early implementation of interim measures to control or minimize ongoing threats to human health or the environment. The interim measures include a wide range of activities such as source removal, installation of a pump and treat system, and institutional controls. Interim measures should be employed as early in the corrective action process as possible, consistent with the environmental objective and priorities for the site. Interim actions should be comparable with, or a component of, the final remedy (or corrective measure).

Release Assessment: Release Assessment is conducted to confirm releases or to reduce uncertainty about SWMUs, AOCs, and potential releases identified during the initial site assessments, to determine whether a full-scale RFI is warranted for the subject unit or area. It may be advantageous to conduct a limited release assessment after the RFA but before a full-scale site characterization, to focus subsequent investigations or eliminate certain units or areas from further consideration. The Release Assessment can be incorporated into the RFI, or site characterization (see below). The release assessment can include focused information gathering (e.g., review of operating and maintenance records, historical photographs and documents, blueprints and other information that was not included in the preparation of the RFA) and focused sampling to confirm a release, to confirm the absence of a release, to confirm that a release was adequately remediated, or to show that the down-gradient groundwater

contamination is attributable to another source (e.g., off-site). Information collected during a Release Assessment can be used to focus site characterizations on the areas and releases and exposure pathways which constitute the greatest risks or potential risks to human health and the environment and to eliminate areas from consideration during site characterization. A Release Assessment is distinguished from a RFI by the scope of the investigation, with a RFI being the more detailed of the two.

Site Characterization: Site characterization is necessary to ascertain the nature and extent of contamination at a site and to gather information necessary to support the selection and implementation of appropriate remedies. In the RCRA program, this is the RCRA Facility Investigation or "RFI". A RFI can be imposed if there is a known or suspected release of hazardous waste or hazardous constituents. A RFI is an investigation of potentially contaminated media, i.e., soil, sediment, water and air.

The purpose of the RFI is to determine the nature, extent, and rate of migration of hazardous wastes or hazardous constituents in soils, groundwater, surface water, subsurface gas and/or air, regardless of the time at which the hazardous wastes or hazardous constituents were released. Based on these multimedia analyses, the types of contaminants present, the boundaries of any contamination (e.g., those of groundwater plumes), the rate and direction of contaminant movement can be determined in each of the impacted media.

A RFI should be viewed as a focused site investigation which typically includes the development of a Conceptual Site Model. A conceptual site model is a three-dimensional picture of site conditions that conveys what is known or suspected about the sources, releases and release mechanisms, contaminant fate and transport, exposure pathways and potential receptors, and risks. The conceptual site model can be documented by written descriptions of site conditions and supported by maps, cross sections, analytical data, diagrams of the site that illustrate actual or potential receptors, and other descriptive tools. It is based on the information available at any given time and will evolve as more information becomes available. The conceptual site model may be used to present hypotheses that additional investigations could confirm or refute, to support risk-based decision-making, and to aid in identification and design of potential corrective measures.

The conceptual site model is dynamic and should be tested and refined from the very first stages of corrective action to the point at which the site has been remediated and no longer presents a threat to human health or the environment.

A focused approach to site characterization can be more efficient when innovative approaches are used, especially those that rely on rapid sample collection (e.g. direct-push technologies) and on-site analytical techniques (e.g. sensor technologies, assay kits, field gas chromatography/mass spectrometry, X-ray fluorescence). Depending on the actual data quality objectives for a particular site, confirmatory laboratory analyses may also be necessary.

Sufficient data shall be generated during the RFI to allow proper assessment of corrective measure alternatives. This may require bench and/or pilot studies to be implemented as part of the RFI. Once all these analyses are reviewed, a RFI report is prepared that provides a summation of the data and recommendations for any needed corrective measures. (It is likely that remedial strategies will become clear during the initial site assessment and site characterization. To expedite the corrective action process, data gathering during site characterization can be focused on information needed to support plausible remedies.)

If, based on information developed during the RFA, the RFI or other activities (e.g., regulated unit groundwater monitoring) EPA determines that a release or potential release of hazardous waste and/or hazardous constituents at or from the subject facility poses a threat or potential threat to human health or the environment, EPA may require the Permittee to implement interim corrective measures ("ICMs"), prior to Final Corrective Measures Remedy Selection and Implementation. This is done to prevent or minimize the further spread of contamination while final remedies at the facility are evaluated and/or pursued.

Corrective Measures: In RCRA corrective action, the identification and evaluation of remedial alternatives is referred to as the Corrective Measures Study (or "CMS"). The purpose of a CMS is to identify and evaluate potential remedial alternatives based on site-specific conditions and recommend a preferred remedial alternative as the remedy. A CMS may be required by EPA if concentrations of hazardous constituents found at the subject facility either in an aquifer, in surface water/sediment, in soils or in air, indicate that a release has occurred which may pose a potential threat to human health and the environment. A CMS may also be required by EPA if concentrations of hazardous constituents are found off-site if the constituents migrated from the facility.

The CMS report should provide a discussion of the alternative corrective measure strategies evaluated. The report should address technical, institutional, engineering and cost issues, and the level of protectiveness of human health and the environment afforded by each alternative. The Permittee shall recommend the proposed corrective measure remedy based on the alternatives evaluated in the CMS. The CMS shall address alternative remediation strategies that are technologically feasible and reliable, and which effectively mitigate and minimize

damage to, and provide adequate protection of, human health and the environment. The CMS may not require extensive evaluation of a number of remedial alternatives where the remedial alternative is straightforward, or where few alternatives exist. The CMS report may be limited to evaluation of a single corrective measure alternative, in addition to a no further action alternative. This may be done if, following completion of the RFI, this approach is warranted based on fully characterized site conditions, and is subject to EPA's approval. In such cases, the Permittee may submit a limited scope CMS.

If site cleanup involves implementation of an alternative action studied in the CMS (rather than the no action option), cleanup concentration levels must be developed by the Permittee as part of the CMS. Cleanup concentration levels shall be protective of human health and the environment, as defined above, given site-specific conditions. Where available, they should be based on promulgated health based standards, such as Maximum Contaminant Levels ("MCLs") established under the Safe Drinking Water Act. Where promulgated standards are not warranted or available, cleanup concentration levels should be based on EPA-recognized health based levels, such as Risk-Specific Doses ("RSD") for carcinogens and Reference Doses ("RfDs") for systemic toxicants, that have undergone extensive scientific review. Alternative protectiveness standards may be proposed for restricted site land usage and/or groundwater and surface water usage, subject to EPA's approval. However, pursuant to 40 CFR §264.90, all corrective actions concerning groundwater releases from regulated units must be consistent with, and as stringent as, those required under 40 CFR §264.100.

Corrective Measure Selection: In the selection of a corrective measure (or remedy), following completion of the CMS, EPA will consider a Permittee's preferred corrective measure, other applicable corrective measures, and public comments. EPA will select the corrective measure(s) and initiate a Permit modification to require implementation of the selected corrective measure(s). The corrective measure(s) selected shall be protective of human health and the environment, and maintain protection over time. Pursuant to Section 3004(u) of RCRA and 40 C.F.R. Section 264.101, the owner or operator of the facility will be required to demonstrate financial assurance for completing the approved corrective action measure(s), as specified in Section E.5(b), below.

Permit modification for the approved corrective measure(s) will initiate the final stage of corrective measures, the Corrective Measures Implementation ("CMI"). The CMI will address the final design, construction, operation, maintenance, and monitoring of the corrective measure or measures selected. (For additional information on corrective action, see Fed. Reg. Vol 61, No. 85, May 1, 1996, at 19432.)



There are several SWMUs for which EPA has determined that no corrective measure is necessary, and EPA designated these SWMUs, identified in Group 1 of Section A.4.c. of this Module, for "No Further Action (NFA)." Additionally, EPA has designated one SWMU (32-Process Sewer) in Group 2 of Section A.4.d. of this Module, for NFA.

3. RCRA § 3008 (h) Corrective Action Order

In June 1994, EPA and the owner/operator of the Facility at that time, Puerto Rico Sun Oil Company LLC ("PRSOC"), entered into a RCRA § 3008 (h) Corrective Action Order (the "Order"), which required PRSOC to investigate 17 SWMUs across the Facility. Under the Order, PRSOC implemented a RCRA Facility Investigation (RFI) at the 17 SWMUs. PRSOC and SCYL, under EPA oversight, have performed additional supplemental RFI investigation and corrective action activities, the latter of which are still continuing (ie., ongoing groundwater monitoring and baling) for certain SWMUs and at certain locations at the Facility. See further discussion in Condition 4. f., below, concerning past work completed and additional work to be performed by the Permittee.

4. Solid Waste Management Units ("SWMUs") Subject to Conditions of this Module.

a. The conditions of this Module apply to:

- (1) All the SWMUs listed below where either an RFI, ICM, or CMS have indicated that corrective action is or may be required; and
- (2) Any additional SWMUs that are identified during the course of future groundwater monitoring, field investigations, environmental audits or other means as described in Module III, Condition C, Assessment of Newly Identified SWMUs and AOCs.

b. According to the 1989 RFA Report, 46 SWMUs had been identified at the Permittee's Facility based on results of the PR and VSI conducted in the late 1980s. Five additional SWMUs were identified at the Facility subsequent to the RFA and prior to the RFI. Of these SWMUs, a total of 34 were designated for no further action (NFA). Additional investigation and/or corrective action was deemed appropriate for the remaining 17 SWMUs. Each of the SWMUs is identified below and grouped into one of two categories based on the status of investigation and corrective action.

- c. Group 1. The following SWMUs were designated for NFA at completion of the RFA:

<u>Number</u>	<u>Description</u>
SWMU 1	Tug Boat Dock Sump
SWMU 4	West Aisle Ditch
SWMU 5	Firewater Basin
SWMU 6	Outfall Basin
SWMU 7	3-Cell API Separator
SWMU 8	2-Cell API Separator
SWMU 9	Flood Surge Pond
SWMU 10	Lime Pits
SWMU 11	Sulfur Pit
SWMU 12	Slop Tank W5
SWMU 13	Slop Tank W6
SWMU 15	Equalization Basin
SWMU 16	Sludge Digester
SWMU 19	Clarifier
SWMU 20	Float Oil Basin
SWMU 21	Old Oily Sludge Basin
SWMU 22	Hazardous Waste Storage Area (HWSA)
SWMU 23	Asbestos Boxes
SWMU 24	Asbestos Box Van
SWMU 25	Nonhazardous Waste Mixing Box
SWMU 26	Davco Unit
SWMU 27	Heat Exchanger Bundle Cleaning Area
SWMU 28	Nonhazardous Waste Disposal Area
SWMU 29	Spent Catalyst Area
SWMU 30	Asbestos Disposal Area
SWMU 31	Perimeter Ditch
SWMU 37	Sand Drying Beds
SWMU 41	Ballast Tank W1
SWMU 42	Ballast Tank W2
SWMU 46	New Oily Sludge Basin
SWMU 47	Nonhazardous Waste Storage Area
SWMU 48	Induced Air Flotation Unit
SWMU 49	Equalization Tank W7
SWMU 50	Equalization Tank W8
SWMU 51	Sludge Processing Facility



- d. Group 2. The RFI for the Facility was initiated for 17 SWMUs in June 1996. All 17 SWMUs are shown on attached Figure #3. According to the June 1997 RFI Draft Report and the March 2005 RFI Final Report, contamination has been reported in both soil and groundwater at the Facility. The following SWMUs were included in the RFI and/or Supplemental RFI Work Plan. Each is discussed in greater detail in Permit Attachments III-1 (June 1997 RFI Draft Report and subsequent revisions), III-2 (June 30, 2003 Supplemental RFI Report and subsequent revisions), and III-3 (March 2005 Draft RFI Final Report).

<u>Number</u>	<u>Description</u>
SWMU 2	West API Separator
SWMU 3	East API Separator
SWMU 14	Final Retention Basin
SWMU 17	North Aeration Basin
SWMU 18	South Aeration Basin
SWMU 32	Process Sewer
SWMU 33	Main Dock Sump
SWMU 34	Barge Dock Sump
SWMU 35	Slop Oil Tank 103
SWMU 36	Dissolved Air Flootation Unit
SWMU 38	Dewatering Unit
SWMU 39	Hazardous Waste Mixing Box
SWMU 40	Disposal Area in Back of HWSA
SWMU 43	Watery Oil Separator
SWMU 44	Ballast Basin
SWMU 44A	Ballast Basin Leachate Collection Tank
SWMU 45	East Aisle Ditch

- e. NFA Determinations for Group 2 SWMUs. Based on currently available information and data, including but not limited to the June 1997 RFI Draft Report, the RFI Work Plan and the Process Sewer Assessment Report, and subsequent submissions pursuant to the Process Sewer Assessment Report, a NFA determination has been made for SWMU 32 (Process Sewer).
- f. Status of Remaining Group 2 SWMUs. PRSOC and SCYI, under EPA oversight, have completed all supplemental RFI work and provided data to EPA, as part of the Draft Final RFI Report, dated March, 2005. Details of the work performed as part of the supplemental RFI investigation were included in Section E of the Draft Permit that was publicly noticed on September 23, 2003. EPA has recently completed its review of the Draft Final RFI Report and provided comments to the Permittee, in a letter

(including three attachments) dated August 17, 2005. The Permittee shall, to the extent it has not already done so, undertake additional investigation and provide the information and documents requested in EPA's August 17, 2005 letter, including attachments. Based on the results of the additional investigation, the collection of information and revision of documents, as described in the August 17, 2005 letter, and following EPA's approval of the Final RFI Report, the Permittee may be required to perform additional investigation of some or all of the sixteen remaining Group 2 SWMUs during the Corrective Measures Study phase. Further corrective action activities already known to be necessary for some of the sixteen remaining Group 2 SWMUs, are further specified below. The paragraphs below provide a brief description and history for these SWMUs, a concise history of investigation and corrective action, and the current status of environmental activity.

(1) SWMU 2 -- West API Separator.

- (a) This SWMU consists of an in-ground, open-topped concrete tank that has been in operation since 1971. This unit provides primary oil/water/solids separation for stormwater collected from the western side of the Tank Farm Area. Water from this unit discharges to the Induced Air Flotation (SWMU 48), and the oil emulsion goes to the Watery Oil Separator (SWMU 43).
- (b) During the RFA, stained soil was observed at the south and east sides of the unit due to drainage or spillage from vacuum truck hoses. There is no record of overflow of the unit. No hazardous constituents were detected in soil above risk-based screening levels (RBSLs) and site-specific background levels during the RFI. No hazardous constituents were detected in groundwater above groundwater screening levels during the Supplemental RFI.
- (c) Based on the results of the activities currently being undertaken in response to EPA's August 17, 2005 letter and attachments, EPA may require the Permittee to undertake additional activities for this SWMU.

(2) SWMU 3 -- East API Separator.

- (a) This SWMU consists of an in-ground open-topped concrete tank that has been in operation since 1971. This unit provides primary oil/water/solids separation for stormwater collected from the eastern side of the Tank Farm Area. Water from this unit discharges to the Induced Air Flotation (SWMU 48), and the oil emulsion goes to the Watery Oil Separator (SWMU 43).
- (b) During the RFA, stained soil was observed at the north and south sides of the unit due to drainage or spillage from vacuum truck hoses. There is no record of overflow of the unit. During the RFI, elevated levels of benzo(a)pyrene and methylene chloride were observed in soil at this SWMU. No other hazardous constituents were reported above RBSLs and site-specific background levels in soil. Groundwater samples collected during the RFI and Supplemental RFI reported no hazardous constituents above groundwater screening levels. Measurable free product hydrocarbons (FPH) have been observed in well 3-09.
- (c) The Permittee shall implement additional activities for this SWMU, including continued monitoring of FPH and operation of the existing interim recovery program, unless EPA makes a determination that a more aggressive remediation program is required and such more aggressive program is implemented. EPA may require the Permittee to implement a more aggressive remediation program as an interim corrective measure pursuant to section B.6 of this Module.

(3) SWMU 14 -- Final Retention Basin.

- (a) This SWMU consists of an in-ground open-topped clay-lined earthen impoundment. From 1971 to 1991, the unit received wastewater, boiler blowdown, and off-specification water from refinery strippers. Water was subsequently discharged to the Equalization Basin (SWMU 15) and the North and South Aeration Tanks (SWMUs 17 and 18). In 1991, liquid and sludge wastes were removed

from the unit, and the clay liner was removed. The area was subsequently backfilled prior to installation of new tanks.

- (b) During the RFA, an oily residue was observed covering the base of the unit. During the RFI, elevated levels of antimony were observed in groundwater at this SWMU. Subsequent groundwater sampling in 1997 and 2003 did not confirm the presence of antimony above groundwater screening levels. Soil was not evaluated.
  - (c) Based on the results of the activities currently being undertaken in response to EPA's August 17, 2005 letter and attachments, EPA may require the Permittee to undertake additional activities for this SWMU.
- (4) SWMUs 17 and 18 -- North and South Aeration Basins.
- (a) These SWMUs consist of two in-ground concrete basins that have been in operation since 1971. With a capacity of 1.2 million gallons, each basin receives wastewater from the Facility's equalization tanks for aggressive biological treatment before the wastewater is pumped to the plant clarifier (SWMU 19).
  - (b) No records were available for review during the RFA. During the RFI, elevated levels of antimony and lead were reported in groundwater. Subsequent groundwater sampling in 1997 and 2003 did not confirm the presence of antimony or lead above groundwater screening levels. However, arsenic was reported in one monitoring well (AB-1) at a concentration slightly above the groundwater screening level. Soil was not evaluated.
  - (c) The Permittee shall implement additional activities for SWMUs 17 and 18, including continued monitoring of groundwater quality at and downgradient of well AB-1. Such monitoring shall continue until final remedies are selected and implemented, or until EPA otherwise determines that such monitoring is no longer necessary.

(5) SWMU 33 -- Main Dock Sump.

- (a) This SWMU consists of two adjacent in-ground, open-topped concrete tanks surrounded by a contiguous bermed slab to contain spilled material. The oil sump has been in operation since 1972 for collection of crude oil spills during loading and unloading of vessels. The collected oil is subsequently pumped to the crude oil tanks. The stormwater sump has been in operation since 1992 for collection of precipitation runoff, which is then pumped to the tank farm and subsequently discharged into the wastewater treatment system.
- (b) During the RFA inspection, a strong hydrocarbon odor was observed on soil surrounding the unit due to spills over the side of the unit. FPH was also observed in a recovery well adjacent to the oil sump. During the RFI, elevated levels of benzene were reported in groundwater, and measurable FPH was observed in seven wells at this SWMU. Benzene, naphthalene, and 2-methylnaphthalene were reported above their respective groundwater screening levels in one well (MDS-4) during the Supplemental RFI, although these results may be biased high due to the presence of FPH in the well prior to sample collection. Surface water samples collected along the shoreline in 2005 indicated the presence of arsenic above ecological screening criteria, but this may be attributable to natural background concentrations in the area. Soil and sediment were not evaluated.
- (c) The Permittee shall implement additional activities for this SWMU, including:
  - (i) Continued monitoring of FPH in wells and along the shoreline, and ongoing operation of the existing interim recovery program, unless EPA makes a determination that a more aggressive remediation program is required and such more aggressive program is implemented. EPA may require the Permittee to implement a more aggressive remediation program as an interim corrective measure pursuant to section B.6 of this Module.
  - (ii) Continued monitoring of groundwater quality at and downgradient of well MDS-4. Such monitoring

shall continue until final remedies are selected and implemented, or until EPA otherwise determines that such monitoring is no longer necessary.

- (iii) Sampling and analysis of sediment along the shoreline to evaluate potential ecological risks.

(6) SWMU 34 -- Barge Dock Sump.

- (a) This SWMU consists of two adjacent in-ground, open-topped concrete tanks surrounded by a contiguous bermed slab to contain spilled material. The oil sump has been in operation since 1972 to allow for drainage of pipelines and hoses associated with product loading and unloading. The collected oil is subsequently pumped to the crude oil tanks. The stormwater sump has been in operation since 1992 for collection of stormwater runoff from the barge dock prior to discharge to the wastewater treatment system.
- (b) Stained soil and concrete were observed at this SWMU during the RFA. During the RFI, elevated levels of 2-methylnaphthalene were reported in soil at this SWMU. No other hazardous constituents were reported above RBSLs and/or site-specific background levels in soil. Elevated levels of arsenic and benzene were detected in groundwater during the initial RFI investigation, but supplemental sampling conducted in 1997 and 2003 reported no detectable benzene concentrations. Supplemental sampling for arsenic in 2003 indicated exceedances of applicable groundwater screening levels in well BDS-2. Measurable FPH was also observed in wells BDS-2, BDS-3 and MW-9. A sheen of FPH was also detected in two additional wells at this SWMU.
- (c) The Permittee shall implement additional activities for this SWMU, including:
  - (i) Continued monitoring of FPH in wells and along the shoreline and operation of the existing interim recovery program, unless EPA makes a determination as that a more aggressive remediation program is required and such more aggressive program is implemented. EPA may require the Permittee to implement a more aggressive

remediation program as an interim corrective measure pursuant to section B.6 of this Module.

- (ii) Continued monitoring of groundwater quality at and downgradient of well BDS-2. Such monitoring shall continue until final remedies are selected and implemented, or until EPA otherwise determines that such monitoring is no longer necessary.

(7) SWMU 35 -- Slop Oil Tank.

- (a) This SWMU consists of a closed-top steel tank which has been in use since 1971 for collection of recovered oil from Slop Oil Tanks W5 and W6. The oil is subsequently pumped to a crude unit for further recovery. Water in the unit is conveyed to the 2-Cell API Separator.
- (b) During the RFA, valves on the unit were found to be leaking and soil in the area was stained. During the RFI, hazardous constituents were not detected in soil above RBSLs and site-specific background concentrations. Groundwater was not evaluated.
- (c) Based on the results of the activities currently being undertaken in response to EPA's August 17, 2005 letter and attachments, EPA may require the Permittee to undertake additional activities for this SWMU.

(8) SWMU 36 -- Dissolved Air Flotation Tank.

- (a) This SWMU consists of an aboveground concrete tank that has been in operation since 1971 for receipt of wastewater from the 2-Cell API Separator (SWMU 8) before discharge to the Equalization Tanks (SWMUs 49 and 50).
- (b) During the RFA, soil at the northwest corner of the unit was found to be stained due to releases from a crack in the collection sump. During the RFI, elevated levels of benzo(a)pyrene were reported at one soil sampling location. No other hazardous constituents were detected in soil above RBSLs and site-specific background concentrations. Groundwater was not evaluated.



- (c) Based on the results of the activities currently being undertaken in response to EPA's August 17, 2005 letter and attachments, the Permittee shall implement additional activity for this SWMU, including but not limited to, evaluation of risks associated with the risk based screening level exceedance reported in subsurface soil.
  - (d) Based upon EPA's review of a Spill Incident Report for this SWMU, the Permittee shall, to the extent it has not already done so, implement cleanup activities and provide a formal report upon completion of the cleanup, as specified in EPA's April 1, 2005 letter to the Permittee.
- (9) SWMU 38 -- Dewatering Chamber.
  - (a) This SWMU consists of an in-ground concrete box lined with steel sheeting that is surrounded by a concrete pad. The unit received oily sludge from the 2-Cell and 3-Cell API Separators (SWMUs 7 and 8) in the refinery between 1971 and 1992. Dewatered sludge was removed from the unit and mixed with cement kiln dust prior to off-site disposal.
  - (b) During the RFA, soil stained with a dark oil was observed in front and south of the unit. Both soil and groundwater were evaluated during the RFI, but no hazardous constituents were detected above RBSLs at this SMWU.
  - (c) Based on the results of the activities currently being undertaken in response to EPA's August 17, 2005 letter and attachments, EPA may require the Permittee to undertake additional activities for this SWMU.
- (10) SWMU 39 -- Hazardous Waste Mixing Box.
  - (a) This SWMU consists of an aboveground steel box, situated on a concrete pad, that was used from 1987 to 1992 for mixing hazardous waste with cement kiln dust for stabilization prior to off-site disposal.
  - (b) During the RFA, stained soil was observed in front of the pad on the east side of the unit. During the RFI, no hazardous constituents were detected in soil above RBSLs. Groundwater was not specifically evaluated at SWMU 39,

but routine groundwater monitoring of well MW-RA6 at the adjacent equalization basin indicated no detectable VOCs.

- (c) Based on the results of the activities currently being undertaken in response to EPA's August 17, 2005 letter and attachments, EPA may require the Permittee to undertake additional activities for this SWMU.

(11) SWMU 40 -- Northeast Refinery Area.

- (a) This SWMU consists of an earthen disposal area used at some time in the past for temporary staging of waste prior to off-site disposal.
- (b) During the RFA, three small piles of dark brown, light brown, and blue waste material were identified on the soil surface. During the RFI, elevated levels of chromium, nickel, and selenium were reported in soil above migration to groundwater RBSLs, and benzo(a)pyrene was reported above its direct contact RBSL. Arsenic was also reported above applicable RBSLs but below site-specific background concentrations. Residual petroleum product was found in soil borings inside and outside of the fenced area. Elevated levels of antimony were reported in groundwater at this SWMU during the initial RFI effort, but subsequent sampling in 1997 and 2003 did not confirm the presence of antimony above groundwater screening criteria. 2-Methylnaphthalene was reported above its groundwater screening level in one well (40-21) at this SWMU. Measurable FPH has been observed in six wells. Surface water and sediment samples collected from Lajas Creek in the vicinity of SWMU 40 in 2005 reported no detectable organic hazardous constituents, but potential metals contamination in the creek has not yet been evaluated.
- (c) The Permittee shall implement additional activities for this SWMU, including:
  - (i) Continued monitoring of FPH and operation of the existing interim recovery program at SWMU 40 and in the Northeastern Refinery Area, unless EPA makes a determination as that a more aggressive remediation program is required and such more

aggressive program is implemented. EPA may require the Permittee to implement a more aggressive remediation program as an interim corrective measure pursuant to section B.6 of this Module.

- (ii) Continued monitoring of groundwater quality at and downgradient of well 40-21. Such monitoring shall continue until final remedies are selected and implemented, or until EPA otherwise determines that such monitoring is no longer necessary.
- (iii) Sampling of Lajas Creek surface water and sediment for metals analysis, and evaluation of results for potential human health or ecological risks.

(12) SWMU 43 -- Watery Oil Separator.

- (a) This SWMU consists of an in-ground concrete basin used since 1971 for receipt of oily water from the API separators and ballast water tanks W1 and W2 (SWMUs 41 and 42). Recovered oil is pumped from this unit to slop oil tanks and then to the crude unit for processing. Water from this unit is pumped to the East API Separator (SWMU 3).
- (b) Stained soil and concrete was observed at this SWMU during the RFA. During the RFI, methylene chloride was reported in one soil sampling location at a concentration slightly above the migration to groundwater RBSL. Arsenic was reported at soil sample location 43-03 at a concentration slightly above its RBSL and site-specific background level. No other hazardous constituents were reported above RBSLs and site-specific background levels in soil or groundwater. Measurable FPH was historically observed in two wells but was recently reported only in well WOS-2.
- (c) The Permittee shall implement additional activities for this SWMU, including continued monitoring of FPH and operation of the existing interim recovery program, unless EPA makes a determination that a more aggressive remediation program is required and such more aggressive program is implemented. EPA may require the Permittee to

implement a more aggressive remediation program as an interim corrective measure pursuant to section B.6 of this Module.

(13) SWMU 44 -- Ballast Basin Skimmer Area.

- (a) The Ballast Basin consists of an in-ground surface impoundment surrounded by earthen dikes. The dikes and bottom of unit are lined. A skimmer unit has been constructed on top of a reinforced concrete pad. SWMU 44 consists of the skimmer unit and the immediate area surrounding the unit. Since 1971, this unit has received water from the ballast water tanks. Oil skimmed from the surface flows to a concrete sump and then is vacuumed to the Watery Oily Separator (SWMU 43). Water from the unit is discharged to the 2-Cell Separator in the refinery area.
- (b) During the RFA inspection, stained soil and grass was observed adjacent to the skimmer and on a portion of the northern and western basin berms. During the RFI, hazardous constituents were not detected in soil or groundwater above applicable RBSLs or site-specific background concentrations.
- (c) Based on the results of the activities currently being undertaken in response to EPA's August 17, 2005 letter and attachments, EPA may require the Permittee to undertake additional activities for this SWMU.

(14) SWMU 44A--Ballast Basin Leachate Collection Tank

- (a) The Ballast Basin Leachate Collection Tank consists of a vertically oriented 42-inch diameter concrete pipe which rests on a 6-inch thick reinforced concrete slab. The depth of the tank has been measured at 9 feet, 7 inches from the top of the tank cover to the top of the concrete slab. A four-inch PVC pipe enters the tank from the south at a point approximately 12 inches from the tank bottom.
- (b) During the RFI, the tank was inspected for structural integrity and for visual evidence that the tank had released hazardous constituents to subsurface soil. The interior surface of the tank appeared to be free of significant corrosion, cracking, or structural

defects. The pattern of staining on the interior tank surface suggested historical rainwater infiltration into the tank at seams along the cover, and the tank contained what appeared to be accumulated precipitation to a depth of 30 inches at the time of the inspection. A sample of this liquid was collected for analysis, and was found to be free of contaminants. There was no evidence of displacement, settling or movement of the tank that could have resulted in releases from the tank. Grout around the base of the tank and the PVC piping appeared to be in good condition, and only minor spalling of the concrete surface was observed. No soil or groundwater sampling was conducted at this SWMU during the RFI..

(c) Based on the results of the activities currently being undertaken in response to EPA's August 17, 2005 letter and attachments, EPA may require the Permittee to undertake additional activities for this SWMU.

(15) SWMU 45 -- East Aisle Ditch.

- (a) This SWMU consists of an in-ground open concrete-lined ditch that slopes gradually toward the East API Separator (SWMU 3). Since 1971, the ditch was used to transport stormwater from the east side of the Tank Farm Area to the East API Separator.
- (b) During the RFA, oil-stained soil was observed above the concrete base of the ditch. During the RFI, no hazardous constituents were reported in soil or groundwater above RBSLs or site-specific background levels. Residual petroleum product was observed in four soil borings, and a sheen of FPH was observed in wells 45-01 and 45-10.
- (c) The Permittee shall implement additional activities for this SWMU, including continued monitoring of FPH and operation of the existing interim recovery program, unless EPA makes a determination that a more aggressive remediation program is required and such more aggressive program is implemented. EPA may require the Permittee to implement a more aggressive remediation program as an interim corrective measure pursuant to section B.6 of this Module.

5. Recently Identified SWMU: SWMU 52–Crude Tank 003-002

(a) This SWMU consists of an area of impacted soil surrounding Crude Tank 003-002 in the Refinery's tank farm area. An estimated 1,090 cubic yards of soil has been impacted over an area of approximately 19,600 square feet. Free product hydrocarbons have also been observed.

(b) Hydrocarbon fingerprinting analysis completed when the free product and oil-stained soil was initially discovered (independent of the RFI) suggest the release of a high boiling point product (e.g., diesel fuel, Bunker C, or similar). A lower boiling point product such as gasoline may also be present. The degree of degradation suggests that this release occurred approximately seven years ago or more (i.e., 1998 or earlier).

(c) The Permittee shall implement assessment activity for this SWMU, including continued information gathering, contaminant delineation, and/or risk evaluation. Specific background details on the status and contents of Crude Tank 003-002 shall be provided to the Agency, along with information documenting the integrity of the tank, its specific location, and the means by which the soil was identified as impacted (e.g., visual observations only, field screening, laboratory analysis). Soil and groundwater sampling shall be conducted to determine the nature and areal extent of contamination above acceptable Risk Based Screening Levels. Any necessary response actions shall also be implemented to mitigate environmental impacts and protect human health and sensitive environmental receptors.

6. Areas of Concern

Work at AOCs can be required pursuant to Section 3005(c)(3) of RCRA, 42 U.S.C. §6925(c)(3), the omnibus provision, and its corresponding regulation, 40 CFR §270.32 (b)(2). No further action is being required at any of the four (4) AOCs previously identified for the Facility. No other AOCs have been identified at present for the Facility. Accordingly, the corrective action activities in this Module of the Permit do not require any corrective action for any AOCs. However, EPA reserves its right to require work pursuant to Section C. of this Module or to initiate a Permit modification pursuant to 40 CFR §270.41 for the purpose of requiring the Permittee to engage in corrective action at AOCs at the Facility if AOCs are identified subsequent to issuance of this Permit. EPA also reserves its right to issue a separate order. (See Module I.A of this Permit).

B. STANDARD CONDITIONS FOR CORRECTIVE ACTIONS

1. Work Plans. All work plans submitted pursuant to this Module shall include: (a) Quality Assurance/Quality Control protocols to ensure that data generated is valid and supported by documented procedures; (b) other plans, specifications and protocols, as applicable; (c) a schedule for starting specific tasks, completing the work, and submitting interim and final reports; and (d) plans for the treatment, storage, discharge or disposal of wastes to be generated by activities described therein.
2. Monitoring and Records. Requirements for monitoring and records shall be in accordance with the Condition F. 9 of Module I of this Permit.
3. Health/Safety Plans. The Permittee shall develop, according to applicable Federal, State and local requirements, and submit to EPA, health and safety plans that will be implemented to ensure that the health and safety of project personnel, plant personnel, and the general public are protected. These plans are not subject to approval by EPA.
4. Guidance Documents. When preparing the submissions described in this Module, the Permittee shall follow and cite, to the extent appropriate, applicable guidance documents issued by EPA.
5. Prior Submittals. The Permittee may have already submitted portions of information, plans, or reports required by this Permit Module to EPA pursuant to the terms of previous applications, consent orders, or plans. For those items the Permittee contends it has already submitted to EPA, the Permittee may cite the specific document(s) and page(s) it believes adequately addresses each of the individual items requested by this Permit Module and its Appendices. The references, by document and page, shall be placed in the appropriate sections of the submittals that require the referenced information and data. If EPA, after a file search, determines that it does not possess any of the referenced information, plans, or reports that the Permittee claims were previously submitted, EPA will notify the Permittee and the Permittee shall submit the referenced documents within the time frame specified in the notification. EPA will decide whether any such information, plans and/or reports adequately address the required information and shall notify the Permittee in writing of its determination.
6. Interim Corrective Measures (ICMs)
  - a. As an Interim Corrective Measure (ICM), the Permittee shall continue monitoring of Free Product Hydrocarbons (FPH) and operation of the existing recovery program, bailing, as indicated in Section A.4.f. of this Module, for several SWMUs from which measurable FPH have been



observed in wells. These SWMUs (3, 33, 34, 40, 43, and 45) are identified in Group 2 of Section A.4.f of this Module. The FPH recovery operations shall continue until one of the following, whichever comes first: (1) EPA makes a determination that a more aggressive interim corrective measure is required and such more aggressive interim corrective measure is implemented, as mentioned below; or (2) final remedies are selected and implemented according to the procedures outlined in Permit Condition F of this Module; or (3) until EPA determines that all recoverable FPH has been removed from the subsurface and formally indicates its concurrence with discontinuance of recovery operations. With prior EPA written consent, the frequency and/or method of FPH recovery may be modified at any SWMU due to changes in FPH levels at the SWMU.

- b. If after review of submission(s) from Permittee, EPA still believes that a more aggressive interim corrective measure than baling is necessary, it shall require the Permittee to complete its evaluation of other technologies and methods for implementing a more aggressive FPH recovery operation. The Permittee shall submit its evaluation of other technologies and methods by a date to be determined by EPA in writing.
- c. EPA will determine if a more aggressive interim corrective measure (ICM) is necessary to mitigate a threat or potential threat from the FPH to human health and the environment. If EPA determines that a more aggressive interim corrective measure is necessary, it will notify the Permittee in writing, specifying the reason for EPA's determination and either at the same time or a later date EPA will inform the Permittee of the aggressive interim measure(s) deemed necessary. The Permittee shall submit an ICM Plan (with details) for a more aggressive interim measure, if requested by EPA pursuant to Section B.6.g. The Permittee shall implement the more aggressive ICM as approved by EPA.
- d. In the event the Permittee identifies a release or potential release of hazardous waste and/or hazardous constituents that pose a threat or potential threat to human health or the environment, or the Permittee becomes aware of a situation where it would be appropriate to prevent or minimize the further spread of contamination while long-term remedies for the Facility are pursued, the Permittee shall notify EPA orally within three (3) days of discovery and shall notify EPA in writing within ten (10) days of such identification, summarizing the condition and the ICM being considered.
- e. Notwithstanding any other provision in this Section, if EPA determines that a release or potential release of hazardous waste and/or hazardous

constituents at the Facility poses a threat or potential threat to human health or the environment and warrants implementation of an ICM, or if EPA identifies a condition at the Facility where it would be appropriate for the Permittee to implement ICM(s) to prevent or minimize the further spread of contamination while long-term remedies for the Facility are pursued, EPA will notify the Permittee in writing, specifying the basis for EPA's determination.

- f. EPA may in its discretion consider the following factors in determining the need for ICMs:
  - (1) Time required to develop and implement a final remedy;
  - (2) Actual and potential exposure of human and environmental receptors;
  - (3) Actual and potential contamination of drinking water supplies and sensitive ecosystems;
  - (4) The potential for further degradation of a medium absent interim measures;
  - (5) Presence of hazardous waste, including hazardous constituents, in containers that may pose a threat of release;
  - (6) Presence and concentration of hazardous waste, including hazardous constituents, in soils that have the potential to migrate to groundwater or surface water;
  - (7) Weather conditions that may affect the current levels of contamination;
  - (8) Risks of fire, explosion, or potential exposure to hazardous waste, including hazardous constituents, as a result of an accident or failure of container or handling system; and
  - (9) Other situations that may pose threats to human health and the environment.
- g. Within one hundred twenty (120) calendar days after first notifying EPA pursuant to Module III Section B.6.d, or within one hundred twenty (120) calendar days of receipt of notification from EPA pursuant to Module III Section B.6.c. or B.6.e, the Permittee shall submit to EPA, for review, comment, and approval, an ICM plan. The ICM plan will identify the

interim measures which will be taken to prevent or mitigate the threat or potential threat to human health and/or the environment which are consistent with, and can be integrated into, to the extent possible, any long term remediation at the Facility. The ICM plan shall, unless indicated otherwise by EPA in writing, consider, among other relevant factors, the character, extent, direction, rate of release, proximity to population, exposure pathways, effects of delayed action, and evaluations of appropriate ICMs. The ICM plan shall also include, but shall not be limited to, a description and design for the ICM and, if necessary, a monitoring program for measuring and reporting on the effectiveness of the ICM.

- h. Upon approval by EPA of any ICM plan submitted by the Permittee pursuant to Module III, Section B.6.c. or B.6.g., the Permittee shall implement the plan by performing any such interim measures in accordance with the standards, specifications, and schedules deemed necessary and approved by EPA.
- i. If, after review of the ICM monitoring data, EPA determines that the ICM is not sufficient to achieve its goal, EPA may require the Permittee to implement enhancements to the ICM.
- j. Nothing herein shall preclude the Permittee from taking, at its own risk, immediate action where such action is required to address the conditions that pose an immediate threat to human health or the environment, but it must promptly notify EPA of such action.

7. Expedited Removal of Waste, Contaminated Material, and Contaminated Soils and Sediments (RCRA Stabilization measures): In situations where there are releases or potential for releases which if not addressed could result in further environmental degradation or where site/contamination characteristics lend themselves to effective measures designed to control or abate the spread of contamination, the Permittee may take remediation or removal action (including treatment), for wastes, visibly impacted soils or sediment, or groundwater regardless of whether the wastes, soil, sediment, or groundwater is related to known releases from any of the SWMUs or AOCs at the Facility.

- a. Prior to taking such action, the Permittee must notify EPA of the situation. The notification must include, at a minimum:
  - i. Locations of impacted areas;
  - ii. Estimated amount of waste material/media impacted;
  - iii. Physical characteristics of waste material, soil, groundwater,

- iv. sludge, or mixture;
  - iv. Chemical characteristics that describe main chemical components in the waste material, and/or media based on information available to the Permittee;
  - v. Description as to how waste material and/or media is to be remediated and/or disposed of;
  - vi. The proposed clean-up levels for soil, sediment, and groundwater, taking into account the applicable federal and commonwealth standards.
- b. Following consultation with EPA, if EPA approves the proposed expedited remedial action, the Permittee shall, unless EPA indicates otherwise, submit to EPA for approval a workplan for the implementation of such expedited remedial action. Upon approval by EPA, the Permittee shall implement the action in accordance with the terms and schedules approved by EPA.
  - c. Within thirty (30) days after the completion of the implementation of actions referenced above, the Permittee must submit to EPA a sampling plan. The purposes of a sampling plan will be to delineate the need for and the extent of further investigations of the impacted areas, or to confirm that the clean-up levels have been achieved in the impacted areas. The sampling plan must conform to the requirements for sampling and analysis referenced in this Permit and may be incorporated into other ongoing investigations of the Facility.
  - d. All transportation and disposal of waste and contaminated materials, soil and sediments must comply with all applicable federal and commonwealth requirements, as further described in paragraph 10, below.

8. Future Determination Of No Further Action (NFA)

- a. This Permit includes NFA determinations for the SWMUs and AOCs identified in Group 1 in section A.4.c. of this Module, as well as the following SWMU identified in Group 2 in section A.4.d. (See also A.4e) of this Module: SWMU 32 (Process Sewer). Based on the results of future work and other relevant information, the Permittee may submit an application to EPA for a Class III Permit modification under 40 CFR §270.42(c) to terminate the subsequent corrective action requirements of this Module for another SWMU or combination of SWMUs. This Permit modification application must contain information demonstrating that there are no releases of hazardous wastes and/or hazardous constituents from the SWMUs that pose a threat to human health and the environment. The Permit modification application must also include information

required by 40 CFR §270.42(c), which incorporates by reference 40 CFR §§270.13 through 270.21, 270.62, and 270.63.

If, based upon review of the RFA and/or RFI results, the Permittee's request for a Permit modification, and other information including comments received during the sixty (60) day public comment period required for Class III Permit modifications, EPA determines that the releases or suspected releases which were investigated either are non-existent or do not pose a threat to human health and the environment, EPA may grant the requested modification.

- b. A determination of NFA shall not preclude EPA from requiring the Permittee to perform continued or periodic monitoring of air, soil, groundwater, surface water or subsurface gas, if necessary to protect human health and the environment, when site-specific circumstances indicate that release(s) of hazardous waste or hazardous constituents may occur from any SWMU at the Facility.
- c. A determination of NFA shall not preclude EPA from requiring the Permittee to perform further investigations, studies, or corrective measures at a later date if new information or subsequent analysis indicates a release or likelihood of a release from the particular SWMU or combination of SWMUs at the Facility that may pose a threat to human health or the environment.

9. Reporting.

- a. The Permittee shall submit copies of all correspondence, work plans, and reports, generated pursuant to the provisions of this Module to the following:
  - (i) Chief, RCRA Programs Branch (2 copies)  
EPA Region 2  
290 Broadway, 22<sup>nd</sup> Floor.  
New York, NY 10007-1866
  - (ii) EPA Corrective Action Project Manager (1 copy)  
RCRA Programs Branch  
EPA Region 2  
290 Broadway, 22<sup>nd</sup> Floor.  
New York, NY 10007-1866
  - (iii) Mr. Carl Soderberg ( 1 copy)  
U. S. Environmental Protection Agency

Caribbean Environmental Protection Division  
Centro Europa Building, Suite 417  
1492 Ponce de Leon Ave  
Santurce, PR 00907-4127

- (iv) Puerto Rico Environmental Quality Board  
Director, Land Pollution Regulation Program (1 copy)  
P.O. Box 11488  
San Juan, PR 00910

- b. The Permittee shall submit to EPA signed quarterly progress reports of all activities performed pursuant to Module III (i.e., SWMU Assessment, Interim Measures, RCRA Facility Investigation, Corrective Measures Study and Corrective Measures Implementation), beginning no later than ninety (90) calendar days following the effective date of this Permit, and every three months thereafter. The quarterly reports will be due to EPA within 45 days following the end of the quarter.
- c. Unless otherwise agreed to in writing by EPA, the Permittee's quarterly progress reports shall contain:
- (1) specific identification of those calendar dates covered by the report;
  - (2) a description of the work completed during the associated calendar quarter, including, but not limited to, all preliminary (i.e., non-validated) analytical results obtained, lithologic logs of all soil borings and/or wells installed, well construction logs/diagrams for all wells completed, and a description of all well maintenance activities completed during the reporting period;
  - (3) a description and estimate of corrective action efforts completed through the end of the reporting quarter;
  - (4) summaries of all findings made during the reporting period, including summaries of laboratory data not included above;
  - (5) summaries of all changes made during the reporting period;
  - (6) summaries of all contacts made with representatives of the local community and public interest groups during the reporting period;
  - (7) summaries of all problems or potential problems encountered during the reporting period and actions taken to rectify problems;

- (8) documentation of all changes in personnel conducting or managing the corrective action activities during the reporting period;
  - (9) a description of projected work for the next reporting period; and
  - (10) copies of daily reports, inspection reports, validated laboratory/monitoring data, etc. generated during the reporting period.
- d. The Permittee's quarterly progress reports shall also contain the following information for as long as EPA deems such information necessary for proper management of corrective action activities:
  - (1) a summary of ongoing free product recovery operations at the Facility during the reporting period, including identification of the wells evaluated for the presence of FPH and pertinent results, identification of wells from which FPH is being recovered, the method(s) of FPH recovery, the volume of product recovered, results of any associated well measurements made during the reporting period (e.g., water table elevation, free product thickness, etc.), other recovery operation statistics that may be requested by EPA, date of gauging, dates of any sampling conducted, and preliminary results, if available, or an indication of the date when analytical results are expected;
  - (2) summaries of any ongoing groundwater monitoring for dissolved constituents, along with preliminary data and an evaluation of any significant or potentially significant changes in contaminant concentrations and/or migration; and
  - (3) summaries of groundwater elevation data, contaminant recovery levels, treatment efficiency data, and other details which are or may become pertinent for ICMs and later phases of corrective action, along with any recommendations for enhancement of the corrective action operations.
- e. Upon request, copies of any other reports (e.g., inspection reports, sample collection field notes, groundwater elevation figures, data tables) not submitted pursuant to subparagraphs b, c, and d immediately above shall be made available to EPA.
- f. Based on information provided in the quarterly progress reports required above, or upon other supporting information, EPA may require the Permittee to conduct new or more extensive assessments, investigations



or studies and/or new or more extensive ICMs pursuant to Condition B.6 or B.7. of this Module.

- g. All plans and schedules required to be submitted by the conditions of this Permit Module are, upon approval of EPA, incorporated into this Permit by reference and become an enforceable part of this Permit. Any noncompliance with such approved plans and schedules shall be termed noncompliance with this Permit. Extensions of the due dates for submittals may be granted in accordance with the Permit modification processes under 40 C.F.R. Section 270.41 and 270.24, to the extent these regulations are applicable. Due dates for submittals and other schedules may otherwise be extended and/or altered upon written consent of EPA pursuant to Permit Condition E. 6 below.

- 10. Compliance with Governmental Requirements. During investigative activities, ICMs, and final corrective measures (including, but not limited to, equipment decommissioning, excavation and unit demolition) required under this Module, the Permittee shall ensure that the transportation, treatment, storage, discharge, and disposal of all waste and contaminated materials generated as a result of such activities (including, but not limited to, soils, sediments, liquids, tanks, pipes, pumps, rubble, and structural materials) are performed in an environmentally sound manner, protective of human health and the environment, pursuant to all applicable federal, commonwealth and local requirements. Nothing in this Module shall be construed to require the Permittee to proceed in a manner which is in violation of any such requirements.

11. Notifications

- a. Notification of Possible Off-Site Groundwater Contamination.

If at any time the Permittee discovers that hazardous wastes and/or constituents in groundwater have been released from any SWMU at the Facility, and have migrated, or are migrating, beyond the Facility boundary (i) in concentrations that exceed background levels or (ii) if background levels are not readily available for contaminants that have migrated or are migrating beyond the Facility boundary, the Permittee shall:

- (1) within ten (10) calendar days of discovery, provide written notice to EPA of the condition;
- (2) If EPA determines, after receipt of the notification, that implementation of the Interim Corrective Measures of B.6. of this Module are necessary to protect human health and the environment, then it will require that the Permittee implement as

required, all requirements given in Condition B. 6. of this Module;

and

- (3) if the release poses an immediate threat or if requested by EPA, provide written notice to any person who owns or resides on the land which overlies the contaminated groundwater.

b. Notification of Surface Water Contamination. If at any time the Permittee discovers that hazardous wastes and/or constituents have been released from any SWMU at the Facility to surface waters, and have migrated, or are migrating, to areas beyond the Facility boundary in concentrations that exceed standards given at 40 CFR §141.61 and §141.62, the Permittee shall:

- (1) within ten (10) calendar days of such discovery, provide written notification to EPA of the condition, and implement as required, all requirements given in Condition B.6 of this Module; and
- (2) if the release poses an immediate threat or if requested by EPA, initiate any actions that may be necessary to provide notice to all individuals who have or who are likely to have been subject to such exposure.

c. Notification of Residual Contamination. If hazardous wastes or hazardous constituents in SWMUs at the Facility, or which have been released from SWMUs, will remain in or on the land, including groundwater, after the term of this Permit has expired, at concentrations that may pose an actual or potential threat to human health or the environment with a risk in the range of  $10^{-4}$  to  $10^{-6}$  or greater, EPA may require the Permittee to record, in accordance with Commonwealth law, if applicable, a notation in the deed to the Facility property or in some other instrument that is normally examined during title search that will, in perpetuity, notify any potential purchaser of the property of the types, concentrations, and locations of such hazardous wastes or hazardous constituents. EPA may require such notice as part of the corrective measures selection process.

d. Notification of Air Contamination. If at any time the Permittee discovers that hazardous constituents in the air have been released from any SWMU at the Facility and have migrated, or are migrating, to areas beyond the Facility boundary in concentrations that exceed relevant air standards, and that residences or other places are located within such areas and might be subject to continuous, long-term exposure to such constituents, the Permittee shall, within ten (10) calendar days of such discovery:

- (1) provide written notice to EPA; and
- (2) initiate any actions that may be necessary to provide notice to all individuals who have or who are likely to have been or to be subject to such exposure.

12. Corrective Action Beyond the Facility Boundary

Where the Permittee is required under the terms of this Permit to conduct corrective action beyond the Facility boundary, the Permittee shall, as necessary and appropriate, use best efforts to obtain permission of the other property owner(s) to conduct such corrective action, pursuant to section 3004(v) of RCRA, and will communicate with EPA if there are any problems in undertaking such action(s) or obtaining such permission.

C. FUTURE ASSESSMENT OF ANY NEWLY IDENTIFIED SWMUS AND/OR AOCs  
(For purposes of this subparagraph, the term "SWMU" or "SWMUs" shall include an AOC, or AOCs, respectively).

1. Notification.

The Permittee shall notify EPA, in writing, of any additional SWMUs not listed in this Module, which are identified during the course of groundwater monitoring, field investigations, environmental audits or other work, or by other means within fifteen (15) calendar days of discovery of these SWMUs.

2. SWMU Assessment Report. Within thirty (30) calendar days after notification of EPA, the Permittee shall submit a SWMU Assessment Report. This Report must provide, at a minimum, the following information for each newly identified SWMU:

- a. Type of SWMU;
- b. Location of each SWMU on a topographic map of appropriate scale;
- c. Dimensions, capacities and structural description of the SWMU (supply available engineering drawings);
- d. Function of SWMU;
- e. Dates that the SWMU was operated;
- f. Description of the wastes that were placed or spilled at the SWMU;

- g. Description of any known releases from the SWMU (to include groundwater data, soil analyses, air monitoring data, and/or surface water/sediment data);
  - h. The results of any prior sampling and analysis required for the purpose of determining whether releases of hazardous waste and constituents have occurred, are occurring, or are likely to occur from the SWMU; and
  - i. Whether this SWMU, individually or in combination with other SWMUs described in Condition A.4 of this Module is a significant source of contaminant release.
3. SWMU Sampling and Analysis Plan. Within thirty (30) calendar days after submittal of the SWMU Assessment Report required in Condition C.2 of this Module or by another deadline established by EPA after consulting with the Permittee, the Permittee shall submit to EPA a SWMU Sampling and Analysis Plan for any sampling and analysis of groundwater, land surface and subsurface strata, surface water or air, as necessary to determine whether a release of hazardous waste including hazardous constituents from such SWMU has occurred, is likely to have occurred, or is likely to occur. The SWMU Sampling and Analysis Plan must demonstrate that the sampling and analysis program, if applicable, is capable of yielding representative samples and must include parameters sufficient to identify migration of hazardous waste, including hazardous constituents, from any newly discovered SWMUs to the environment. Upon receipt of the SWMU Sampling and Analysis Plan, EPA shall provide the Permittee with either written approval or comments on the Plan.
4. Review and Revision of Sampling and Analysis Plan. Following submission of any SWMU Assessment Sampling and Analysis Plan set forth in Condition C.3 of this Module, subsequent activities regarding the Plan shall proceed in accordance with the following schedule:
- a. A meeting may be requested in writing by the Permittee within thirty (30) calendar days of the Permittee's receipt of Plan comments from EPA. This meeting may occur either prior to or after the 30-day period; however, the request must be made within the 30-day period.
  - b. Submission of a revised Plan to EPA within thirty (30) calendar days of the above-referenced meeting or by another deadline established by EPA after consulting with the Permittee. If EPA determines that such a meeting is not necessary, the Permittee shall submit a revised Plan to EPA according to a schedule specified by the Agency not to exceed forty-five (45) calendar days after Permittee's receipt of Plan comments from EPA, unless the period for submission is extended by EPA; and

- c. Implementation of the Plan should occur as soon as practicable, but in no event later than sixty (60) calendar days following written approval of the plan by EPA, unless extended by EPA.
- 5. SWMU Sampling and Analysis Report. Within sixty (60) calendar days of completion of the work specified in an approved SWMU Sampling and Analysis Plan, the Permittee shall submit a SWMU Sampling and Analysis Report to EPA. The Report shall follow reporting requirements in the approved Plan and shall describe all results obtained from the implementation of the approved Plan.
- 6. RFI Work Plan. Based on the results of any SWMU Sampling and Analysis Report, EPA shall determine the need for further investigations at a specific SWMU covered in either the SWMU Assessment Report or the SWMU Sampling and Analysis Report. If EPA determines that such investigations are needed, EPA shall require the Permittee to prepare an RFI Work Plan in accordance with Condition C. 7 of this Module. The RFI Work Plan required under this section may omit certain items required under Condition C.7 of this Module, if these items have already been acceptably covered in prior RFI submissions, subject to EPA approval. The Permittee shall submit to EPA a RFI Work Plan for such SWMU(s) within ninety (90) calendar days of written notification by EPA. Following submission of an RFI Work Plan, subsequent activities for the Plan shall follow the schedule outlined in Condition C. 8 of this Module.
- 7. Additional RCRA Facility Investigation (RFI) Work Plan if Required by EPA
  - a. Subsequent to the effective date of the permit, if EPA determines pursuant to conditions C.6, D.2, C.8 or C.9 of this Module that more RFI work is required, the Permittee shall submit to EPA new RFI Work Plan documentation within ninety (90) calendar days following written notification by EPA (or by another deadline established by EPA after consulting with the Permittee).
    - (1) The Work Plan shall describe the objectives of the investigation and the overall technical and analytical approach to completing all actions necessary to characterize the nature, direction, rate, movement, and concentration of releases of hazardous waste, including hazardous constituents, from specific SWMUs or groups of SWMUs in the groundwater. Furthermore, the Work Plan shall also determine the boundaries where groundwater contamination migration will be contained; determine the effectiveness of implemented measures in controlling human exposure to soil contamination, and containment of groundwater contaminant migration; and identify actual or potential receptors. Additionally, the Work Plan shall detail all proposed activities and procedures to

be conducted at the Facility and/or off-site, the schedule for implementing and completing such investigations, the qualifications of personnel performing or directing the investigations, including contractor personnel, and the overall management of the RFI.

- (2) The Work Plan shall also discuss, sampling, data collection strategy, methods of sample analysis, as well as quality assurance and data management procedures, including formats for documenting and tracking data and other results of investigations, and health and safety procedures.
  - (3) The Work Plan must, at a minimum, address all necessary activities or include descriptions to meet the requirements specified in the model Scope of Work for RFI Activities, provided as Attachment III-4 to this Permit. However, certain items required by the model Scope of Work or above in C.7.a.1. or C.7.a.2. may be omitted, subject to EPA written approval, if these items are deemed unnecessary or unwarranted, or have already been covered by prior RFI submissions to EPA. Within thirty (30) calendar days of EPA's written notification that an RFI is required pursuant to Conditions C.6., D.2 or C.8 of this Module, the Permittee may request, in writing, that EPA review for approval the Permittee's determination that any or all items required by Permit Attachment III-4 have been previously completed, and/or may be omitted. At the time of the request, the Permittee must provide the following information: (1) description of the items and/or summary of the findings; (2) description of investigations addressing the items/documents/reports of the investigations with dates and summary of the findings; and 3) copies of the documents/reports. See III.B.5 of this Module for general information on Prior Submittals. EPA shall notify the Permittee in writing of its determination whether any or all items required by Permit Attachment III-4 of this Module have been previously completed and/or may be omitted.
- b. Following submission of an RFI Work Plan pursuant to Condition C.7.a of this Module, as modified by any determinations approved by EPA under Condition C.7.a.(3) of this Module, subsequent activities for the Plan shall proceed in accordance with the following schedule:
- (1) EPA shall review the Work Plan and either approve it or issue written deficiency comments.



- (2) A meeting between the Permittee and EPA, if desired by the Permittee to discuss the deficiency comments, must be requested by the Permittee within thirty (30) calendar days of the date of EPA's written deficiency comments, and approved by EPA. This meeting, if approved by EPA, may occur either prior to or after the 30 day period. The request, however, must be made within the specified 30 day period.
- (3) The Permittee shall submit a revised RFI Work Plan to EPA within sixty (60) calendar days of the date of EPA's written deficiency comments, if no meeting is held pursuant to subparagraph (2) immediately above, or within sixty (60) calendar days after the meeting if such a meeting is held, or by another deadline established by EPA after consulting with the Permittee.

8. RCRA Facility Investigation (RFI) Work Plan Implementation.

No later than sixty (60) calendar days after written notification by EPA approving the RFI Work Plan submitted pursuant to condition F of this Module, the Permittee shall begin implementation of the RFI according to the schedules specified in the RFI Work Plan. The RFI shall be conducted in accordance with the approved RFI Work Plan.

9. RCRA Facility Investigation (RFI) Final Report.

- a. Within sixty (60) calendar days of receipt by the Permittee of all validated analytical data generated under any approved RFI Work Plan, the Permittee shall submit an RFI Report to EPA.

Any RFI Report must contain adequate information to support further corrective action decisions at the Facility, should such actions be necessary. Any RFI Report shall describe the procedures, methods, and results of all investigations of the subject SWMU and/or AOC and any releases therefrom, including information on the type and extent of contamination released, the sources, migration pathways, and actual or potential receptors. It shall also present all information gathered under the approved RFI Work Plan and revisions thereto. Any RFI Report shall also include a comparison of media-specific hazardous constituents with their corresponding health-based levels.

- b. Following submission of the Report(s) set forth in subparagraph 3.a immediately above, EPA's review and approval shall proceed in accordance with the following schedule:



- (1) EPA shall review the Report(s) and either approve it or issue written deficiency comments.
  - (2) A meeting between the Permittee and EPA, if desired by the Permittee to discuss the deficiency comments, must be requested by the Permittee within thirty (30) calendar days of the date of EPA's written deficiency comments, and approved by EPA. This meeting, if approved by EPA, may occur either prior to or after the 30-day period. The request, however, must be made within the specified 30-day period.
  - (3) The Permittee shall submit a revised Report to EPA within forty-five (45) calendar days of the date of EPA's written deficiency comments, if no meeting is held pursuant to subparagraph (2) immediately above, or within forty-five (45) calendar days after the meeting if such a meeting is held, or by another deadline established by EPA after consulting with the Permittee.
- c. After EPA approves any RFI Report, the Permittee shall provide notice to all individuals on the Facility mailing list established pursuant to 40 CFR §124.10(c)(1), within thirty (30) calendar days of receipt of approval, that the RFI Report has been completed and is available for review upon request.
- d. If, after EPA reviews any RFI Report, it deems that additional data or information is needed to delineate the extent of groundwater contamination, EPA shall notify the Permittee in writing of the data and informational needs, which shall be implemented as a subsequent phase or phases.
- e. Following notification of the additional data and informational needs, subsequent activities for the subsequent investigation phase (or phases) shall proceed in accordance with the following schedule:
- (1) EPA shall arrange a meeting between the Permittee and EPA to discuss the scope of work or work or schedules for the subsequent investigation phase or phases, as appropriate.
  - (2) EPA shall send written request with a schedule for submittal to Permittee to prepare and submit a work plan for implementing the scope of work for the subsequent investigation phase or phases.

- (3) The Permittee shall submit a work plan for the subsequent investigation phase (or phases) conforming to the schedule accompanying the written request from EPA.

D. NOTIFICATION REQUIREMENTS FOR NEWLY DISCOVERED RELEASES AT EXISTING SWMUS AND AOCS (For purposes of this subparagraph, the term "SWMU" or "SWMUs" shall include an AOC, or AOCs, respectively).

1. The Permittee shall notify EPA, in writing, of any new release(s) of hazardous waste and/or hazardous constituents from any SWMUs identified in Condition A.4 of this Module, no later than fifteen (15) days after discovery.
2. Based on the information provided in the notification, EPA shall determine whether further investigation of the release(s) is (are) required. If EPA determines that such investigations are needed, EPA shall notify the Permittee in writing, and may request the Permittee to prepare an RFI work plan in accordance with Condition C.7 of this Module. The RFI Work Plan required under this section may omit certain items required under Condition C.7 of this Module if these items have already been acceptably covered in prior RFI submissions, subject to EPA's approval. The Permittee shall submit to EPA an RFI Work Plan for such SWMU(s) within ninety (90) days of EPA's written notification that it is required. Following submission of an RFI Work Plan, subsequent activities for the Plan shall follow the schedule outlined in Condition C.8 of this Module.

E. 1. Corrective Measures Study (CMS) Work Plan.

The purpose of the CMS is to identify and evaluate potential remedial alternatives based on site-specific conditions and select the preferred alternative as the remedy. The preferred alternative shall also be evaluated for its ability to ensure that: (1) current human exposures are controlled and (2) that there is no further migration of contaminated groundwater. This demonstration shall be made by implementation of permanent control measures and a long-term contamination monitoring program.

- a. The Permittee shall submit a Corrective Measures Study ("CMS") Work Plan(s) within ninety (90) calendar days after the date of written notification from EPA that a CMS is required for any SWMU or combination of SWMUs, including any newly identified SWMUs or AOCs or combination thereof, or by another deadline established by EPA after consulting with the Permittee. EPA's notification shall identify the hazardous constituent(s) which have exceeded health-based levels, as well as those which have been determined to threaten human health and the environment given site-specific exposure conditions or due to additive

exposure risk. The notification shall also specify corrective measure alternatives to be evaluated by the Permittee during the CMS.

- b. EPA may require a CMS for any SWMU or combination of SWMUs, including any newly identified SWMUs or AOCs or combination thereof under the following conditions
  - (1) The concentrations of hazardous constituents in groundwater, surface water/sediment, soil, or air exceed their corresponding individual health-based levels;
  - (2) The concentrations of hazardous constituents in groundwater, surface water/sediment, soil, or air do not exceed their corresponding individual health-based levels, but additive exposure risk due to the presence of multiple constituents is not protective of human health; or
  - (3) The concentrations of hazardous constituents in groundwater, surface water/sediment, soil, or air do not exceed individual health-based levels, but still pose a threat to human health or the environment, given site-specific exposure conditions.
- c. EPA and the Permittee may agree to include multiple SWMUs, including newly identified SWMUs or AOCs, in the same CMS Work Plan and Report. The CMS Work Plan(s) must address, at a minimum, all necessary activities in the model Scope of Work for a CMS, provided as Attachment III-5 to this Permit. However, certain items required by the model Scope of Work given in Permit Attachment III-5 may be omitted, subject to EPA approval, if these items are deemed unnecessary or unwarranted, or have already been covered by prior RFI or CMS submissions to EPA. The CMS Work Plan(s) shall provide:
  - (1) description of the general approach to investigating and evaluating potential corrective measures;
  - (2) a definition of the overall objectives of the study;
  - (3) the specific plans for evaluating corrective measures to ensure compliance with corrective measure standards;
  - (4) the schedule for conducting the study; and
  - (5) the proposed format for the presentation of information.

- d. Following submission of the CMS Work Plan(s), as set forth in paragraph (c) immediately above, subsequent activities for the Plan(s) shall proceed in accordance with the following schedule:
- (1) EPA shall review the Plan(s) and either approve it or issue written deficiency comments.
  - (2) A meeting between the Permittee and EPA, if desired by the Permittee to discuss the deficiency comments, must be requested by the Permittee within thirty (30) calendar days of the date of EPA's written deficiency comments, and approved by EPA. This meeting, if approved by EPA, may occur either prior to or after the 30-day period. The request, however, must be made within the specified 30-day period.
  - (3) The Permittee shall submit a revised Plan(s) to EPA within forty-five (45) calendar days of the date of EPA's written deficiency comments, if no meeting is held pursuant to subparagraph (2) immediately above, or within forty-five (45) calendar days after the meeting if such a meeting is held, or by another deadline established by EPA after consulting with the Permittee.
- e. The CMS will be considered complete upon completion of the requirements of the Permit Attachment III-5. However, certain items required under Permit Attachment III-5 may be omitted, subject to EPA's approval, if these items are deemed unnecessary or unwarranted, or have already been covered by prior RFI or CMS submissions to EPA.

2. Corrective Measures Study (CMS) Implementation.

No later than sixty (60) calendar days after the Permittee has received written approval from EPA for the CMS Work Plan, the Permittee shall begin to implement the CMS according to the schedules specified in the CMS Work Plan. The CMS shall be conducted in accordance with the approved Work Plan submitted pursuant to Condition F.4 of this Module.

3. Corrective Measure Study (CMS) Final Report.

- a. Within sixty (60) calendar days after the completion of the CMS, the Permittee shall submit a CMS Final Report(s) (as required in Permit Attachment III-5). EPA and the Permittee may agree to include multiple SWMUs, including newly identified SWMUs or AOCs, in the same CMS Report. The CMS Final Report(s) shall:

- (1) summarize the results of the investigations and, if applicable, of any bench-scale or pilot tests conducted;
  - (2) provide a detailed description of the corrective measures evaluated and include an evaluation of how each corrective measure alternative meet the standards set forth in Condition F.7.a of this Module;
  - (3) present all information gathered under the approved CMS Work Plan(s); and
  - (4) provide any additional information to assist EPA in the corrective measure selection addressed under Condition F.7 of this Module.
- b. The CMS Final Report(s) must address, at a minimum, all items necessary to demonstrate completion of tasks required by Permit Attachment III-5.
- c. Following submission of the CMS Final Report, EPA's review and approval shall proceed in accordance with the following schedule:
- (1) EPA shall review the Report, and either approve it, or issue written deficiency comments.
  - (2) A meeting between the Permittee and EPA, if desired by the Permittee to discuss the deficiency comments, must be requested by the Permittee within thirty (30) calendar days of the date of EPA's written deficiency comments, and approved by EPA. This meeting, if approved by EPA, may occur either prior to or after the 30-day period. The request, however, must be made within the specified 30-day period.
  - (3) The Permittee shall submit a revised Report to EPA within sixty (60) calendar days of the date of EPA's written deficiency comments, if no meeting is held pursuant to subparagraph (2) immediately above, or within sixty (60) calendar days after the meeting if such a meeting is held, or by another deadline established by EPA after consulting with the Permittee.

4. Corrective Measures Selection.

- a. Based on the results in the RFI Final Report submitted under Condition F.3 of this Module, and findings in any CMS Final Report submitted under Condition F.6 of this Module, and any further evaluations of additional

corrective measures that may be necessary, EPA shall select, subject to public notice and comment, corrective measures that will, at a minimum:

- (1) be protective of human health and the environment;
- (2) meet the concentration levels of hazardous constituents in each medium determined to be protective of human health and the environment;
- (3) control the source(s) of release(s) so as to reduce or eliminate, to the maximum extent practicable, further releases of hazardous waste, including hazardous constituents, that might pose a threat to human health and the environment; and
- (4) meet all applicable waste management requirements.

b. In selecting the corrective measure(s) which meet the standards for remedies established under Condition F.7.a of this Module, EPA shall consider the following evaluation factors, as appropriate:

- (1) Long-term reliability and effectiveness. Any potential corrective measure may be assessed for the long-term reliability and effectiveness it affords, along with the degree of certainty that the corrective measure will prove successful. Factors that shall be considered in this evaluation include:
  - (a) the magnitude of residual risks in terms of amounts and concentrations of hazardous waste, including hazardous constituents, that remain after implementation of a corrective measure, considering the persistence, toxicity, mobility and potential to bioaccumulate of such hazardous wastes, including hazardous constituents;
  - (b) the type and degree of long-term management required, including monitoring, operation and maintenance;
  - (c) the potential for exposure of humans and environmental receptors to remaining hazardous wastes, including hazardous constituents, considering the potential threat to human health and the environment associated with excavation, transportation, redisposal or containment;
  - (d) the long-term reliability of the engineering and institutional controls, including uncertainties associated with land

disposal of untreated hazardous wastes, including hazardous constituents, and residuals; and

- (e) the potential need for replacement of the corrective measure.

- (2) Reduction of toxicity, mobility and volume. Any potential remedy may be assessed as to the degree to which it employs treatment that reduces toxicity, mobility or volume of hazardous wastes and/or hazardous constituents. Factors that shall be considered in such assessments include:

- (a) the treatment processes that the corrective measure employs and the materials it would treat;
- (b) the amount of hazardous wastes, including hazardous constituents, that would be destroyed or treated;
- (c) the degree to which the treatment is irreversible;
- (d) the residuals that will remain following treatment, considering the persistence, toxicity, mobility and propensity to bioaccumulate of such residuals, including hazardous constituents; and
- (e) all concentration levels of hazardous wastes, or hazardous constituents in each medium that any corrective measure must achieve to be protective of human health and the environment.

- (3) Short Term Effectiveness. The short-term effectiveness of any potential corrective measure may be assessed by considering the following:

- (a) the magnitude of the reduction of existing risks;
- (b) the short-term risks that might be posed to the community, workers, or the environment during implementation of such a corrective measure, including potential threats to human health and the environment associated with excavation, transportation, and disposal or containment; and
- (c) the time until full protection is achieved.



- (4) Implementability. The ease or difficulty of implementing any potential corrective measure may be assessed by considering the following types of factors:
- (a) the degree of difficulty associated with constructing the technology;
  - (b) the expected operational reliability of the technologies;
  - (c) the need to coordinate with and obtain necessary approvals and Permits from other agencies;
  - (d) the availability of necessary equipment and specialists;
  - (e) the available capacity and location of needed treatment, storage, and disposal services; and
  - (f) the requirements for removal, decontamination, closure, or post-closure of units, equipment, devices or structures that will be used to implement the corrective measure.
- (5) Cost. The types of costs that may be assessed include the following:
- (a) capital costs;
  - (b) operational and maintenance costs;
  - (c) net present value of capital, and operation and maintenance costs; and
  - (d) potential future corrective action costs.

5. Permit Modification for Future Corrective Measures Implementation.

- a. In conjunction with or upon the selection of any corrective measure after the issuance of this Permit for any SWMU, including any new SWMUs or AOCs at the Facility that are identified subsequent to issuance of this Permit, EPA will initiate a modification to this Permit, pursuant to 40 CFR §270.41. The modification will specify the selected corrective measure(s) and include, as appropriate, the following:
- (1) a description of all technical features of any corrective measure that is necessary for achieving the standards for corrective measures

established under Condition F.7.a of this Module, including length of time for which compliance must be demonstrated at specified points of compliance;

- (2) all concentration levels of hazardous constituents in each medium, selected by EPA, that any corrective measure must achieve to be protective of human health and the environment;
  - (3) all requirements for achieving compliance with these concentration levels;
  - (4) all requirements for complying with the standards for management of wastes;
  - (5) all requirements for removal, decontamination, closure, or post-closure of units, equipment, devices or structures that will be used to implement the corrective measure(s);
  - (6) a schedule for initiating and completing all major technical features and milestones of the corrective measure(s); and
  - (7) requirements for submission of reports and other information.
- b. Within thirty (30) calendar days after this Permit has been modified (after public notice and comment) or as otherwise provided in the permit modification, the Permittee shall, pursuant to Section 3004(u) of RCRA and 40 C.F.R. Section 264.101, demonstrate financial assurance for completing the approved corrective action measure(s).
6. Modification of Schedules
- a. If at any time the Permittee determines that modification of the schedules outlined in any section of this Module is necessary, the Permittee must:
- (1) Notify EPA in writing within fifteen (15) calendar days of such determination.
  - (2) Provide an explanation as to why the schedule cannot be met and provide a new proposed schedule, along with a rationale for the new proposed schedule.
- b. EPA shall notify the Permittee in writing of the final decision regarding the Permittee's proposed modification to the schedule.

- c. Modifications to the schedule pursuant to this procedure do not constitute a reissuance or formal modification of this Permit.
- d. All other modifications of this Permit must be made in accordance with Module 1, Condition J of this Permit.

## **MODULE IV - CONTAINER STORAGE AREA**

### **SHELL CHEMICAL YABUCOA INC. (SCYI), PUERTO RICO**

- A. **HAZARDOUS WASTE MANAGEMENT UNIT.** The hazardous waste management unit (i.e., the Container Storage Area, also known as the Hazardous Waste Storage Area ("HWSA")), is located in the northeast corner of the Refinery Area. The existing HWSA includes two adjacent structures: an enclosed storage building and a lined outdoor storage area immediately to the rear of the building (Figure 3-2 attached). The enclosed storage building is 60 feet long and 30 feet wide and is used for storage of non-liquid hazardous waste in containers. Under this Permit, the outdoor area will be upgraded, expanded and divided into two sections, as shown on the attached Figure 3-3. The northern section, with dimensions of 60 feet by 62 feet, will be used only for the storage of hazardous waste that does not contain free liquids. The southern section, with dimensions of 60 feet by 21 feet, will be used for the storage of liquid and non-liquid hazardous waste. A description of the HWSA is presented in Section 3.3 of Permit Attachment IV-1 (Process Description).

The Permittee shall not exceed the maximum storage capacity for the HWSA of 144,870 gallons as provided in the following chart. The maximum number of containers depends on the types of containers stored in the HWSA. The Permittee may also accumulate additional hazardous waste in other areas of the Facility for 90 days or less, subject to 40 CFR 262 requirements.

Storage area	Floor space	Waste type	Maximum waste capacity	Maximum number of containers <sup>(1)</sup>
Enclosed Building	1800 ft <sup>2</sup> (60 ft x 30 ft)	Non-liquid waste only	180 yd <sup>3</sup>	660 55-gallon drums <sup>(2)</sup>
Outdoor Storage Area - North Section	3720 ft <sup>2</sup> (60 ft x 62 ft)	Non-liquid waste only	420 yd <sup>3</sup>	Ten 27yd <sup>3</sup> roll-off containers; or 1,542 55-gallon drums; or any combination thereof not exceeding 420 yd <sup>3</sup>
Outdoor Storage Area - South Section	1260 ft <sup>2</sup> (60 ft x 21 ft)	Liquid or non-liquid waste	Non-liquid - 117 yd <sup>3</sup> Liquid - 23,760 gallons	432 55-gallon drums
Maximum volume of non-liquid waste stored in HWSA: 717 yd <sup>3</sup> Maximum volume of liquid waste stored in HWSA: 23,760 gallons Total volume of liquid and non-liquid waste stored in HWSA may not exceed 717 yd <sup>3</sup>				

- (1) Container types are provided for informational purposes only and are not intended to place limitations on Permittee's selection of containers to be used for the storage of hazardous waste.
- (2) A 55-gallon drum can hold 0.272 cubic yards of waste.

**B. PERMITTED AND PROHIBITED WASTE IDENTIFICATION**

1. Permitted Waste. The Permittee may store only the specific hazardous waste listed below in containers at the HWSA for greater than 90 days. The approximate maximum annual quantities indicated in the table below may be exceeded as long as the maximum storage capacities specified in Condition IV.A are not exceeded. Storage of waste in containers is subject to the waste acceptance criteria in Permit Module II Condition C.1. and Attachment II-1 (Waste Analysis Plan), and other terms of this Permit.

EPA Hazard Waste Code	Process Description	Approximate Maximum Annual Quantity
F037	Petroleum Refinery Primary Oil/Water/Solid Separation Sludge	200 Tons
F038	Petroleum Refinery Secondary Oil/Water/Solid Separation Sludge	Included with above
K048	Dissolved Air Flotation (DAF) Unit Float	500 Tons
K049	Slop Oil Emulsion Solids	Included with above
K050	Heat Exchanger Bundle Solids	Included with above
K051	API Separator Sludge	Included with above
K169	Crude Oil Tank Sediment	100 Tons
K171	Spent Hydrotreating Catalyst	90 Tons
K172	Spent Hydrotreating Catalyst	100 Tons
D001	Ignitable Waste	50 Tons
D018	Toxic (Benzene) Waste	100 Tons
U154	Methanol Waste (Off-Specification)	4,500 Pounds

2. Prohibited Waste.

The Permittee is prohibited from storing any hazardous waste that is not identified in Permit Condition IV.B.1 in the HWSA for greater than 90 days unless the Permittee obtains a permit modification pursuant to 40 CFR §§270.41 or 270.42.

However, the Permittee may accumulate hazardous waste that is not listed in Permit Condition IV.B.1 in the HWSA for 90 days or less, subject to 40 CFR 262 requirements.

All wastes in the HWSA must be managed pursuant to the requirements of 40 CFR 264 Subpart I.

- C. CONDITION OF CONTAINERS. If a container holding hazardous waste is not in good condition (e.g., severe rusting, apparent structural defects) or if it begins to leak, the Permittee shall transfer the hazardous waste from such container to a container that is in good condition or otherwise manage the waste in compliance with the conditions of this Permit and 40 CFR §264.171.

Containers used for transporting hazardous waste off-site must meet the performance standards and shipping container requirements of the United States Department of Transportation and must comply with the requirements of 40 CFR §§262.30, 264.173 and 264.1086.

- D. COMPATIBILITY OF WASTE WITH CONTAINERS. The Permittee shall assure that the ability of the container to contain the waste is not impaired by any incompatibility with its contents. [40 CFR §264.172]

E. MANAGEMENT OF CONTAINERS.

1. The Permittee shall manage all containers in accordance with 40 CFR Part 264, Subpart I and shall keep all containers closed during storage, except when it is necessary to add or remove waste. The Permittee shall not open, handle, or store containers in a manner which may rupture the container or cause it to leak. [40 CFR §264.173]
2. The Permittee shall assure that all containers being accumulated and stored in the HWSA are labeled or marked clearly with the words "Hazardous Waste". Before transporting or offering hazardous waste for transportation, the Permittee shall comply with the labeling, marking and placarding requirements of 40 CFR §§262.31, 262.32 and 262.33.
3. The Permittee is prohibited from stacking the containers more than three containers high.
  - a. Drums and other appropriate containers may be stacked three containers high, provided that pallets are placed between the stack layers, as long as the performance and management standards in 40 C.F.R. Part 264 subpart I are appropriately maintained..

- b. Roll-Off containers are not allowed to be stacked.
- 4. The Permittee shall maintain a minimum aisle space of 2 feet between rows of containers and 2.5 feet between Roll-Off containers to allow for the unobstructed movement of personnel, and fire protection, spill control and decontamination equipment to any area of the HWSA in an emergency.

F. CONTAINMENT SYSTEM.

The Permittee shall maintain and operate the containment system in accordance with the requirements of 40 C.F.R. §264.175 as specified in Section 3.3.2.4 (Containment Area) of Attachment IV-1 and Permit Attachments IV-2(Hazardous Waste Storage Area Containment Calculation) and IV-3 (Engineering Design Drawing for the Concrete Slab). At a minimum, this containment system must be designed and operated as follows:

- 1. A base must underlie the containers, which is free of cracks or gaps and is sufficiently impervious to contain leaks, spills and accumulated precipitation until the collected materials is detected and removed;
- 2. The base must be sloped or the containment system must be otherwise designed and operated to drain and remove liquids resulting from spills, leaks, or precipitation, unless the containers are elevated or otherwise protected from contact with accumulated liquids;
- 3. The containment system must have sufficient capacity to contain ten percent (10%) of the volume of containers, or 100% of the volume of the largest container, whichever is greater.
- 4. Run-on into the containment system must be prevented unless the containment system has sufficient excess capacity, in addition to that required for condition 3 above, to contain any run-on which might enter the system; and
- 5. Spilled or leaked waste and accumulated precipitation must be removed from the sump or collection area within twenty-four (24) hours of detection, as is necessary to prevent overflow of the collection system, and the Permittee shall manage said wastes and precipitation as hazardous wastes, unless demonstrated to be non-hazardous.

G. INSPECTION SCHEDULES AND PROCEDURES.

- 1. The Permittee shall inspect the HWSA in accordance with Table I, Inspection Schedule, set forth in Permit Attachment II-3. The Permittee shall use inspection



log forms that include, at a minimum, the information in the example log forms for the HWSA contained in Permit Attachment II-4 to record observations of leaking containers and deterioration of containers and the secondary containment system caused by corrosion and other factors. [40 CFR §264.174]

2. The Permittee shall retain all of the completed inspection logs in the Facility's operating record, as required by 40 CFR §264.73.
- H. RECORDKEEPING. The Permittee shall place the results of all waste analyses and any other documentation showing compliance with the requirements of Permit Conditions IV.J and IV.K and 40 C.F.R §264.13, §264.17, §264.176 and §264.177, in the Facility operating record. [40 CFR §264.73]
- I. CLOSURE. At closure of the HWSA, the Permittee shall remove all hazardous waste and hazardous waste residues, in accordance with the procedures outlined in the Closure Plan, provided as Permit Attachment VII-1. [40 CFR §264.111 and §264.178]
- J. SPECIAL CONTAINER PROVISIONS FOR IGNITABLE OR REACTIVE WASTE. The Permittee shall manage ignitable or reactive waste, to meet the following requirements:
1. The Permittee shall not locate containers holding ignitable or reactive waste within 15 meters (50 feet) of the Facility's property line. [40 CFR §264.176]
  2. The Permittee shall take precautions to prevent accidental ignition or reaction of ignitable or reactive waste. [40 CFR §264.17(a) and §264.176]
- K. SPECIAL CONTAINER PROVISIONS FOR INCOMPATIBLE WASTE. The Permittee shall meet the following provisions when managing incompatible wastes:
1. The Permittee shall not place incompatible wastes, or incompatible wastes and materials, in the same container. [40 CFR §264.177(a)]
  2. The Permittee shall not place hazardous waste in an unwashed container that previously held an incompatible waste or material [40 CFR §264.177(b)]
  3. The Permittee shall separate containers of incompatible wastes with a dike, berm, wall or other device. [40 CFR §264.177(c)]
- L. LAND DISPOSAL RESTRICTIONS.
- a. WASTE ANALYSIS

1. Pursuant to 40 C.F.R. §264.13(a)(1), before the Permittee treats, stores, or disposes of any hazardous waste, the Permittee must obtain a detailed chemical and physical analysis of a representative sample of the waste. At a minimum, this analysis must contain all the information which must be known to treat, store or dispose of the waste in accordance with the requirements 40 C.F.R. Parts 264 and 268 or with the conditions of this Permit.
2. The Permittee shall comply with the waste analysis, notification, certification, and record keeping requirements 40 C.F.R. §268.7 whenever generating, treating, or managing a waste, where such waste is a land disposal restricted waste (LDR waste) within the meaning of 40 C.F.R. Part 268.
3. If the Permittee determines that a waste is a LDR waste based solely on his knowledge of the waste, all supporting data used to make this determination must be maintained on-site in the Facility's operating record. [40 C.F.R. §264.73].

b. STORAGE OF LDR WASTES

The Permittee may store LDR wastes in accordance with the conditions specified in 40 C.F.R. §268.50(a) for up to one year, unless EPA can demonstrate that such storage was not solely for the purpose of accumulation of such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment, or disposal. (40 C.F.R. §268.50(b)).

The Permittee may store LDR wastes for periods longer than one year; however, in such a case, the Permittee bears the burden of proving that such storage was solely for the purpose of accumulation of such quantities of LDR waste as are necessary to facilitate proper recovery, treatment, or disposal. (40 C.F.R. §268.50(c)).

c. DISPOSAL AND TRANSPORT OF RESTRICTED WASTE

For each new shipment of LDR waste shipped off site for treatment/disposal, the Permittee must notify the recipient treatment/disposal facility in writing of the appropriate treatment standard set forth in Subpart D of 40 C.F.R. Part 268. If the Permittee routinely ships the same waste type to the same facility, the Permittee is only required to send the notification form once. The notice must include the following information:

- (i) EPA Hazardous Waste Number;
- (ii) The corresponding treatment standards;
- (iii) The manifest number associated with the waste shipment; and
- (iv) Waste analysis data, where available.

The certification must be signed by an authorized representative and must state the following:

“I certify under penalty of law that I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 C.F.R. Part 268, Subpart D and all applicable prohibitions set forth in 40 C.F.R. 268.32 and RCRA Section 3004(d), 42 U.S.C. Section 6924(d). I believe that the information I submitted is true, accurate and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment.”

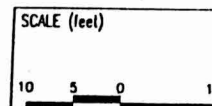
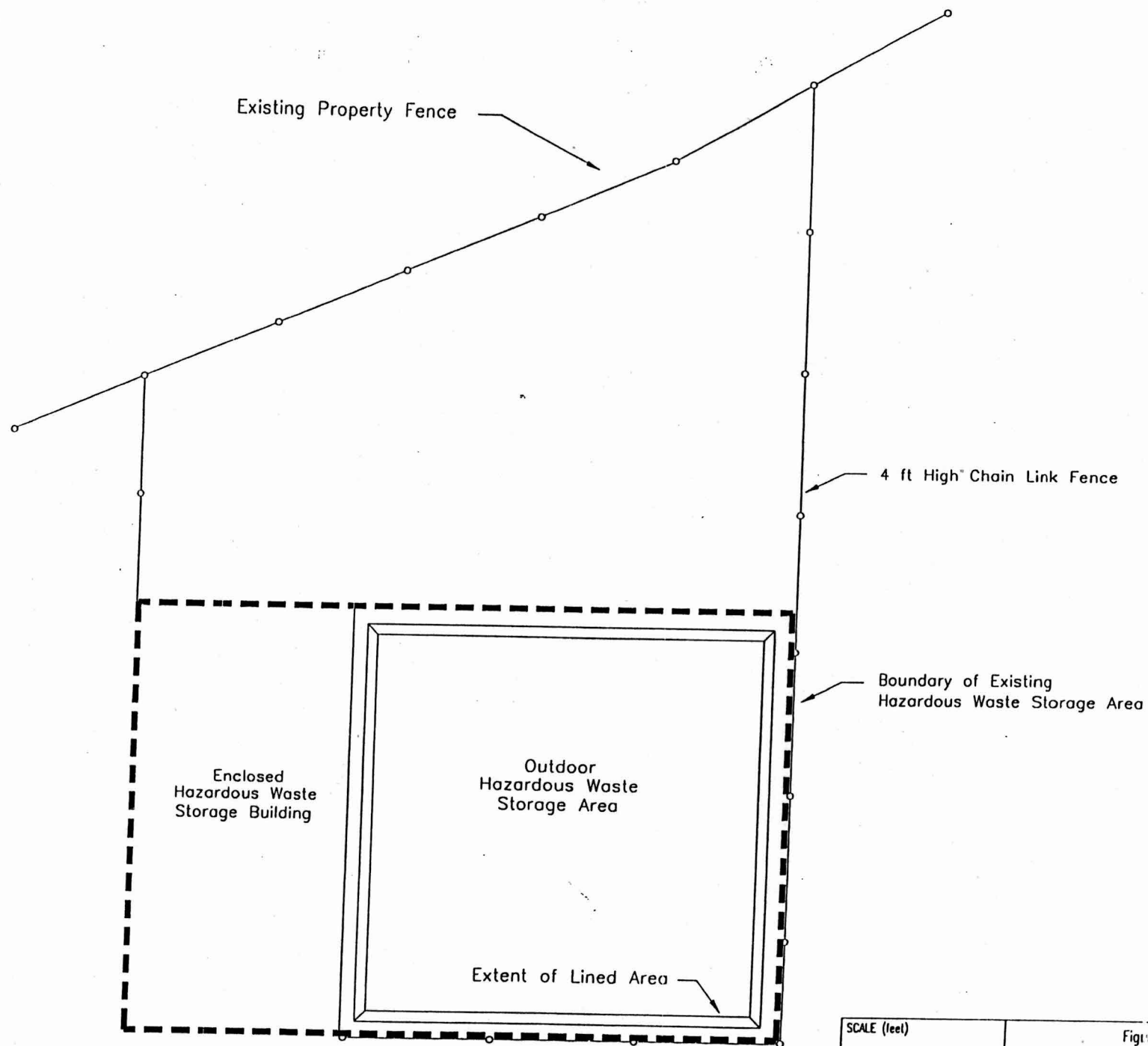
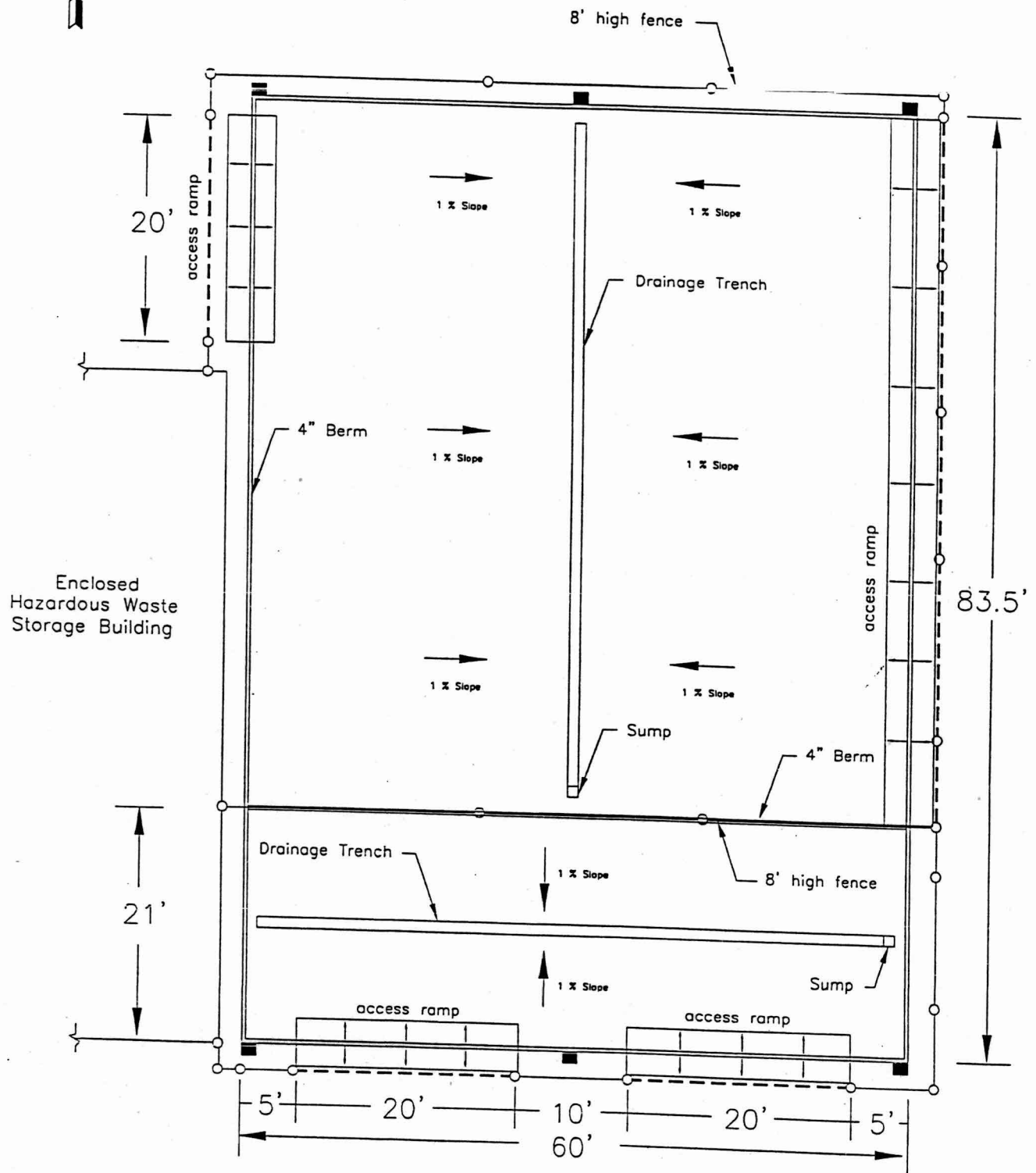
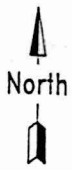


Figure 3-2  
Existing Hazardous Waste Storage Area

Shell Chemical Yabucoa Inc.  
Yabucoa, Puerto Rico

Anderson-Mulholland & Associates, Inc.  
White Plains, New York

January 2002



Legend

- Roof support column
- --- ○ Gate

SCALE (feet)

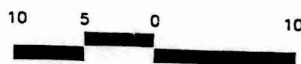


Figure 3-3  
Proposed HWSA  
Shell Chemical Yabucoa Inc.  
Yabucoa, Puerto Rico

Anderson-Mulholland & Associates, Inc.  
White Plains, New York

March 2002

## **MODULE V- ORGANIC AIR EMISSION STANDARDS FOR CONTAINERS**

### **SHELL CHEMICAL YABUCOA INC. (SCYI), PUERTO RICO**

#### **A. APPLICABILITY.**

Units. Pursuant to 40 C.F.R. §264.1080, subpart CC applies to all facilities that store, treat or dispose of hazardous waste in containers, tanks or surface impoundments subject to 40 C.F.R. Part 264, subpart I (Use and Management of Containers), subpart J (Tank Systems) or Subpart K (Surface Impoundments). The Permittee shall control air pollutant emissions from the hazardous waste container storage area (HWSA), as identified in Figure 1-3 of Table I attached to this module ("Table I"), in accordance with all applicable standards specified in 40 C.F.R. Part 264, Subpart CC. Wastes that are subject to this module are listed in Table I. Containers with a design capacity less than or equal to 0.1 m<sup>3</sup> (26 gallons) are exempt from the permit conditions of this Module in accordance with 40 C.F.R. §264.1080(b)(2).

#### **B. STANDARDS FOR CONTAINERS.**

The Permittee shall control air pollutant emissions from containers in the HWSA unit in accordance with the applicable subpart CC General Standards (40 C.F.R. §§264.1082) and Standards for Containers (40 C.F.R. §264.1086). Table I identifies the location, subpart CC status, emission control options, and types of containers typically used by SCYI. Containers used for transporting hazardous waste off-site must meet the performance standards and shipping container requirements of the United States Department of Transportation and must comply with the requirements of 40 C.F.R. Sections 262.30, 264.173 and 264.186. Additionally, the Permittee shall assure that the ability of the container(s) to contain waste is not impaired by any incompatibility with its contents.

#### **C. INSPECTION, MONITORING AND REPAIR.**

The Permittee shall inspect, monitor and repair containers, their covers and closure devices, and any required air emission control equipment in accordance with 40 C.F.R. §264.1086. As required by 40 C.F.R. §264.1088, the Permittee shall develop and implement a written plan and schedule to perform the inspections and monitoring required. The plan and schedule shall be incorporated into the Facility's inspection plan required under 40 C.F.R. §264.15.

#### **D. RECORDKEEPING. REQUIREMENTS**

The Permittee shall prepare and maintain records in accordance with the recordkeeping requirements of 40 C.F.R. §264.1089. Records shall be maintained in the Facility's

operating record for a minimum of three years in accordance with 40 C.F.R. §264.1089.

E. REPORTING REQUIREMENTS.

1. The Permittee shall submit a semiannual report to the Director in accordance with 40 C.F.R. § 264.1090, as applicable.
2. In accordance with 40 C.F.R. § 264.1090(a), the Permittee shall submit a report to the Director for each occurrence when hazardous waste is placed in a container, which is exempted from using air emission controls under 40 C.F.R. § 264.1082(c), in noncompliance with the conditions specified in 40 C.F.R. § 264.1082(c)(1) or (2), as applicable.
3. All reports shall be signed and dated by an authorized representative of the Permittee as per 40 C.F.R. § 270.11(b).

F. NOTIFICATION OF REGULATED ACTIVITY.

The Permittee shall seek modification to this Permit in accordance with 40 C.F.R. §270.42 for any waste management unit or waste management practice which becomes subject to 40 C.F.R. Part 264, Subpart AA, BB or CC subsequent to the issuance of this Permit. The Permittee shall submit the documentation specified in 40 C.F.R. §§270.24, 270.25 and 270.27, as applicable.

G. DUTY TO COMPLY WITH FUTURE REQUIREMENTS.

The Permittee shall comply with all self-implementing provisions of any future air regulations promulgated under the provisions of Section 3004(n) of RCRA, as amended by HSWA, and shall submit supporting documentation to the Director demonstrating compliance with such regulations within thirty (30) days of the effective date of such regulations, as applicable. The Permittee may request an extension of this thirty (30) day period by delivering such a request to EPA in writing no later than fifteen (15) days after the effective date of these future regulations. EPA shall grant or deny any such request for an extension.

H. EXEMPT UNITS.

Containers which are exempt from the Subpart CC control standards at 40 C.F.R. §264.1086 in accordance with 40 C.F.R. §264.1082(c), must meet the waste determination requirements of 40 C.F.R. §264.1083, the record keeping requirements of 40 C.F.R. §264.1089, and the reporting requirements of 40 C.F.R. §264.1090, as applicable.



## Summary of Hazardous Waste Management Units Subject to Subpart CC Regulations

Shell Chemical Yabucoa Inc.  
Yabucoa, Puerto Rico

Hazardous Waste Management Unit	Location of Hazardous Waste Management Unit	EPA Hazardous Waste Code(s)	Brief Waste Description	Average Volatile Organic Concentration of Hazardous Waste	Subpart CC Status	Control Option	Container Type
RCRA Hazardous Waste Storage Area	See Figure 1-3	F037, F038, K050, K051, K169, K171, K172	Primary and secondary separator solids, wastewater and tank sludges, spent catalysts	> 500 ppmw	Subject to Container Level 1 Standards per 264.1086(c)	Control Option 1 <sup>a,c</sup>	16, 30 and 55 gallon steel drums
RCRA Hazardous Waste Storage Area	See Figure 1-3	F037, F038, K049, K050, K051, K169	Primary and secondary separator solids, wastewater and tank sludges	> 500 ppmw	Subject to Container Level 1 Standards per 264.1086(d)	Control Option 2 <sup>b,c</sup>	27 cy (max) Steel Roll-off Containers
RCRA Hazardous Waste Storage Area	See Figure 1-3	D001	Ignitable Waste - spent solvents, spill residues, off-spec product, miscellaneous lab and process waste	> 500 ppmw	Subject to Container Level 1 Standards per 264.1086(c)	Control Option 1 <sup>a,c</sup>	16, 30 and 55 gallon steel drums
RCRA Hazardous Waste Storage Area	See Figure 1-3	D018	Tank and desalter unit bottoms, benzene characteristic waste	> 500 ppmw	Subject to Container Level 1 Standards per 264.1086(c)	Control Option 1 <sup>b,c</sup>	16, 30 and 55 gallon steel drums
RCRA Hazardous Waste Storage Area	See Figure 1-3	U154	Off-specification methanol	> 500 ppmw	Subject to Container Level 1 Standards per 264.1086(c)	Control Option 1 <sup>a,c</sup>	16, 30 and 55 gallon steel drums

- a. Hazardous waste stored in containers with design capacities greater than 0.1 m<sup>3</sup> (26 gallons) and less than 0.46 m<sup>3</sup> (119 gallons) will be equipped with a cover and closure devices which form a continuous barrier over the container such that there are no visible holes, gaps, or other open spaces into the interior of the container when the cover and closure devices are secured in a closed position. Covers and closure devices will be secured and maintained in a closed position at all times, except for the purposes of adding and removing of hazardous waste and to perform routine activities. Adding and removing of hazardous waste will be performed in compliance with the Container Level 1 standards. Prior to placing hazardous waste in a container, the container will be inspected to determine if the container is empty.
- b. Hazardous waste stored in containers with design capacities greater than 0.46 m<sup>3</sup> (119 gallons) that are in light material service shall operate with no detectable emissions as determined using Method 21 of 40 CFR Part 60, Appendix A. Covers and closure devices will be secured and maintained in a closed position at all times, except for the purposes of adding and removing of hazardous waste and to perform routine activities. Adding and removing of hazardous waste will be performed such that exposure of hazardous waste to the atmosphere is minimized to the extent practical. Prior to placing hazardous waste in a container, the container will be inspected to determine if the container is empty.
- c. Every container storage area at the facility will be inspected daily when in use and weekly when not in use for leaking containers, deteriorating containers and containment systems, minimum aisle space, and maintenance of minimum of 50 feet from the property line for containers holding ignitable or reactive waste.

(Table I)

# EXPLANATION

1. 3 CELL API SEPARATOR
2. 2 CELL API SEPARATOR
3. AIR FLOTATION UNIT
4. WEST API SEPARATOR
5. EAST API SEPARATOR
6. EQUALIZATION TANKS
7. SLOP OIL TANKS W5 & W6
8. SLOP OIL TANK 103
9. CRUDE OIL TANKS
10. HYDROTREATER UNIT
11. GAS OIL DESULFURIZATION UNIT
12. HAZARDOUS WASTE SLUDGE DEWATERING FACILITY

HAZARDOUS WASTE  
STORAGE AREA

DOCK FACILITIES

TANK FARM  
WASTE WATER TREATMENT  
AREA

TANK FARM  
AREA

0 200 400  
SCALE  
1: 400

2.	REVISED PER COMMENTS	7/10/95
1.	REVISED PER COMMENTS	6/22/95
No	REVISION	DATE

SHELL CHEMICAL YABUCOA INC.

LOCATION OF HAZARDOUS WASTE FACILITIES  
FIGURE 1-3

SCALE - 1" = 400'	JOB No. - 109256-01
DRAWN BY - A. TAYLOR	REV BY - 7-19-95 TAJ
CHECKED BY - NB	OWG. NAME - 109256/J
DATE - 6/1/95	OWG. No. -

## **MODULE VI - WASTE MINIMIZATION**

### **SHELL CHEMICAL YABUCOA INC. (SCYI), PUERTO RICO**

#### **A. WASTE MINIMIZATION:**

Pursuant to 40 C.F.R. §264.73(b)(9), and Section 3005(h) of RCRA, 42 U.S.C. §6925(h), the Permittee must submit to the Director, on an annual basis, a certification that:

- (1) A program is in place to reduce the volume and toxicity of hazardous waste generated to the degree determined by the Permittee to be economically practicable; and
- (2) The proposed method of treatment, storage or disposal is a practicable method currently available to the Permittee which minimizes the present and future threat to human health and the environment.

This certification will be submitted by July 1 of each year after the effective date of this Permit.

#### **B. HAZARDOUS WASTE REDUCTION PLAN (HWRP).**

The Permittee shall submit a HWRP by July 1 of the first year following the effective date of this Permit. The HWRP shall be updated at least biennially to reflect changes in the HWRP, and submitted by July 1 of that year. The HWRP shall include, at a minimum, the following information:

- (1) Identify amounts and types of all acute hazardous waste generated by waste stream;
- (2) Identify amounts and types of non-acute hazardous waste by waste stream for streams greater than five (5) tons;
- (3) Identify at least 90% of all non-acute hazardous waste generated at the Facility;
- (4) Describe the source of generation and waste management method for each waste stream;
- (5) Provide a list of technically feasible and economically practicable waste reduction measures; and
- (6) Provide a program plan and schedule for implementing technically feasible and economically practicable waste reduction.

The following guidance documents should be used in developing the HWRP:

Waste Minimization Opportunity Assessment Manual,  
EPA/625/7-88/003, July 1988. (Permit Attachment VI-1)  
Available at NTIS, 5285 Port Royal Road, Springfield, VA 22161, tel. 1-800-553-6847. The EPA Manual for Waste Minimization Opportunities can also be downloaded from the following website:  
<http://es.epa.gov/techinfo/facts/epa/wastemin.html>

Region 2 HWRP Requirements.

Available through EPA Region 2, RCRA Programs Branch, Adolph Everett, Acting Chief, tel. 212/637-4109.

The following documents may serve as helpful reference documents:

New York State Waste Reduction Guidance Manual,  
March 1989.

New York State Waste Reduction Guidance Manual Supplement, December 1990. Available through the New York State Department of Environmental Conservation, Bureau of Pollution Prevention, 625 Broadway, Albany, New York 12233-1750, tel. 518/402-9469.

Additional Optional Guidance can be downloaded from the following website:  
<http://www.state.nj.us/dep/opppc/rules/guide.pdf>

C. IMPLEMENTATION of WASTE REDUCTION TECHNIQUES.

The Permittee shall implement the feasible waste reduction techniques in accordance with the schedule in the HWRP.

D. ENVIRONMENTAL MANAGEMENT SYSTEM (EMS).

As an alternative to Waste Minimization reporting, as required in Condition VI A. through VI C, above, the Permittee may submit to EPA a written request, subject to EPA's written approval, to perform and implement an Environmental Management System (EMS) in order to satisfy waste minimization requirements. The request shall be submitted to the Director by April 1 of the first year after the effective date of this Permit or 90 days after the effective date of this Permit, whichever is later. As part of its request, the Permittee must include a report on EMS planning and development (hereinafter referred to as "EMS Report") which shall contain equivalent information to that required to be included in the HWRP in VI C, above. EPA's approval of this EMS alternative will be based on the following:

- (1) the Permittee demonstrates to EPA that an acceptable EMS is in place at the Facility.
- (2) the Permittee's EMS Report provides equivalent information as that required to meet the minimum requirements for a HWRP submittal, as described in Condition VI.B. of this Module, above; and
- (3) the Permittee's EMS Report provides information on the implementation of feasible waste reduction techniques at the Facility, as described in Condition VI.C., above.

If approved, the Permittee will remain subject to the requirement for annual certification, as described in Condition VI A. above. The annual certification will be due on July 1 of the year following the effective date of this Permit, or by another date approved in writing by EPA.

If the EMS standards are not met, or the Permittee later decides that it will no longer implement an EMS at the Facility, or cannot or will not submit an EMS Report as described above, the Permittee will remain subject to the waste minimization requirements described in Conditions VI.A. through VI.C, above.

Information on EMS planning and implementation is available on the following website:  
<http://www.epa.gov/ems/index.html>

## **MODULE VII - CLOSURE**

### **SHELL CHEMICAL YABUCOA INC. (SCYI), PUERTO RICO**

#### **A. CLOSURE.**

**Regional Administrator:** The Regional Administrator of the United States Environmental Protection Agency for Region 2, his or her designee, or authorized representative.

**Director:** The Director of the Division of Environmental Planning and Protection, United States Environmental Protection Agency, Region 2, or the designee, authorized representative, or successor to such Director.

1. **Performance Standard.** The Permittee shall close the hazardous waste management unit (ie., the Container Storage Area (also known as the "Hazardous Waste Storage Area "HWSA")), as required by 40 CFR §264.111 and in accordance with the closure plan in Attachment VII-1 (the "Closure Plan") to this Permit.
2. **Requirement for Written Plan.** In accordance with 40 CFR §264.112(a) and Condition I.I.9 of this Permit, the Permittee shall maintain a copy of a written closure plan in the Facility operating record.
3. **Content of Closure Plan.** The closure plan must identify the steps necessary to perform partial and/or final closure of the hazardous waste management unit at any point during its active life. The closure plan must include all of the information required by 40 CFR §264.112(b). At a minimum, the closure plan must include the following:
  - a. A description of how the hazardous waste management unit at the Facility will be closed in accordance with 40 CFR §264.111; and
  - b. A description of how final closure of the hazardous waste management unit will be conducted in accordance with 40 CFR §264.111. The description must identify the maximum extent of the operations which will not be closed during the active life of the hazardous waste management unit; and
  - c. An estimate of the maximum inventory of hazardous wastes ever on-site over the active life of the hazardous waste management unit and a detailed description of the methods to be used during partial closures and final closure, including, but not limited to, methods for removing, transporting, treating, storing, or disposing of all hazardous wastes, and identification of

the type(s) of the off-site hazardous waste management units to be used, if applicable; and

- d. A detailed description of the steps needed to remove or decontaminate all hazardous waste residues and contaminated containment system components, equipment, structures, and soils during partial and final closure, including, but not limited to, procedures for cleaning equipment and removing contaminated soils, methods for sampling and testing surrounding soils, and criteria for determining the extent of decontamination required to satisfy the closure performance standard; and
- e. A detailed description of other activities necessary during the closure period to ensure that all partial closures and final closure satisfy the closure performance standards, including, but not limited to, groundwater monitoring, leachate collection, and run-on and run-off control; and
- f. A schedule for closure of the hazardous waste management unit and for final closure of the Facility. The schedule must include, at a minimum, the total time required to close the hazardous waste management unit and the time required for intervening closure activities which will allow tracking of the progress of partial and final closure.

4. Amendment to Closure Plan. The Permittee shall submit a written notification of or request for a Permit modification to authorize a change in the closure plan in accordance with the procedures given at 40 CFR Parts 124 and 270. The written notification or request must include a copy of the amended closure plan for approval by the Director.

- a. The Permittee may submit a written notification or request to the Director for a Permit modification to amend the closure plan at any time prior to the notification of partial or final closure of the hazardous waste management unit.
- b. The Permittee must submit a written notification or request for a Permit modification to authorize a change in the closure plan whenever:
  - (1) Changes in operating plans or hazardous waste management unit design affect the closure plan;
  - (2) There is a change in the expected year of closure, if applicable; or
  - (3) In conducting partial or final closure activities, unexpected events require a modification of the closure plan.



- c. The Permittee must submit a written request for a Permit modification including a copy of the amended closure plan for approval at least sixty (60) days prior to the proposed change in hazardous waste management unit design or operation, or no later than sixty (60) days after an unexpected event has occurred which has affected the closure plan. If an unexpected event occurs during the partial or final closure period, the Permittee must request a Permit modification no later than thirty (30) days after the unexpected event.

The Director will approve, disapprove, or modify the amended plan in accordance with the procedures in 40 CFR Parts 124 and 270. The approved closure plan will become a condition of this Permit, in accordance with 40 CFR §270.32. [40 CFR §264.112(c)(3)]

- d. If the Director requests modifications to the plan under the conditions described in 40 CFR §264.112(c)(2), the Permittee must submit the modified plan within sixty (60) days of the Director's request, or within thirty (30) days if the change in hazardous waste management unit conditions occurs during partial or final closure. [40 CFR §264.112(c)(4)]

5. Notification of Partial Closure and Final Closure.

- a. The Permittee must notify the Director in writing at least forty-five (45) days prior to the date upon which the Permittee expects to begin final closure of the hazardous waste management unit (ie., the Container Storage Area (also known as the "HWSA")). [40 CFR §264.112(d)(1)]
- b. The date when the Permittee "expects to begin closure" must be either no later than thirty (30) days after the date on which any hazardous waste management unit receives the known final volume of hazardous wastes or, if there is a reasonable possibility that the hazardous waste management unit will receive additional hazardous wastes, no later than one year after the date on which the unit received the most recent volume of hazardous waste. [40 CFR §264.112(d)(2)(i)]
- c. If the Facility's hazardous waste management unit Permit is terminated, or if the Facility is otherwise ordered, by judicial decree or final order under Section 3008 of RCRA, to cease receiving hazardous waste or to close, then the requirements of Permit Conditions VII.A.5.a and b do not apply. However, the Permittee must still close the hazardous waste management unit in accordance with the deadlines established in 40 CFR §264.113 and Permit Condition VII.A.7 of this Module. [40 CFR §264.112(d)(3)]

6. Removal of Wastes and Decontamination or Dismantling of Equipment. Nothing in this Permit shall preclude the Permittee from removing hazardous wastes and decontaminating or dismantling equipment in accordance with an approved partial or final closure plan at anytime before or after notification of partial or final closure, as provided in 40 CFR §264.112(e).
7. Time Allowed for Closure. After receiving the final volume of hazardous or non-hazardous waste, the Permittee shall remove from any hazardous waste management unit and the facility as a whole, all hazardous waste and shall complete closure activities in accordance with the schedule specified in the closure plan (Permit Attachment VII-1) and the requirements of 40 CFR §264.113. The Permittee shall also:
  - a. Within ninety (90) days after receiving the final volume of hazardous or non-hazardous waste at the hazardous waste management unit, remove from the unit all hazardous waste in accordance with the closure plan; and
  - b. Complete partial and final closure activities in accordance with the closure plan and within one hundred and eighty (180) days after receiving the final volume of hazardous or non-hazardous waste at the hazardous waste management unit.
8. Disposal or Decontamination of Equipment. During all partial and final closure periods, the Permittee shall properly dispose of or decontaminate contaminated equipment, structures, and soils as required by 40 CFR §264.114 and as outlined in the closure plan (Permit Attachment VII-1). By removing any hazardous waste or hazardous constituents during partial and final closure, the Permittee may become a generator of hazardous waste and must handle that waste in accordance with all applicable requirements of 40 CFR Part 262.
9. Certification of Closure. As required by 40 CFR §264.115, within sixty (60) days of completion of closure of the hazardous waste management unit, and within sixty (60) days of the completion of final closure, the Permittee shall submit to the Director, by registered mail, a certification that the hazardous waste management unit or the facility, as applicable, has been closed in accordance with the specifications in the closure plan. The certification must be signed by the Permittee and by an independent registered professional engineer. Documentation supporting the independent registered professional engineer's certification must be furnished to the Director upon request, until he or she releases the Permittee from the financial assurance requirements for closure under 40 CFR §264.143(i).

- B. COST ESTIMATE FOR HAZARDOUS WASTE MANAGEMENT UNIT (I.E., CONTAINER STORAGE AREA OR HAZARDOUS WASTE STORAGE AREA) CLOSURE. The Permittee's closure cost estimate, prepared in accordance with 40 CFR §264.142(a) as specified in Permit Attachment VII-1, shall be updated annually.
1. During the active life of the hazardous waste management unit, the Permittee must adjust the closure cost estimate for inflation annually, within 60 days prior to the anniversary date of the establishment of the financial instrument(s) used to comply with 40 CFR §264.143. Adjustments to the closure cost estimate must be made in accordance with the requirements of 40 CFR §264.142(b).
  2. The Permittee must revise the closure cost estimate no later than thirty (30) days after the Director has approved a request to modify the closure plan, if the change in the closure plan increases the cost of closure. Any revised closure cost estimate must be adjusted for inflation as specified in 40 CFR §264.142(b). [40 C.F.R. §264.142(c)]
  3. The Permittee must keep the latest closure cost and adjusted closure cost estimates at the facility, as required by 40 CFR §264.142(d) and Module 1, Condition I.10 of this Permit.
- C. FINANCIAL ASSURANCE FOR HAZARDOUS WASTE MANAGEMENT UNIT (I.E., CONTAINER STORAGE AREA OR HAZARDOUS WASTE STORAGE AREA) CLOSURE. The Permittee shall demonstrate continuing compliance with 40 CFR §264.143, and/or, when applicable, with 40 CFR §264.145 and §264.146, by providing documentation of financial assurance conforming to 40 CFR §264.151. Financial assurance must be demonstrated in at least the amount of the cost estimates required by Permit Condition VII.B.
- D. LIABILITY REQUIREMENTS. The Permittee shall demonstrate continuous compliance with the requirements of 40 CFR §264.147, including requirements to have and maintain liability coverage for sudden accidental occurrences in the amount of at least \$1 million per occurrence with an annual aggregate of at least \$2 million, exclusive of legal defense costs.
- E. INCAPACITY OF OWNERS OR OPERATORS, GUARANTORS, OR FINANCIAL INSTITUTIONS. The Permittee shall comply with 40 CFR §264.148 whenever necessary.